

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE HERBARTIAN PSYCHOLOGY. (II.)¹

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IN the last No. we have considered that part of Herbart's work in which he passes by constructive synthesis from simple to complex interaction of presentations. We have now to follow him in his attempt to resolve the complex phenomena of concrete mental life into the elementary processes of which they are composed. The previous synthesis was an indispensable preliminary to this work of analysis. The facts of our actual mental life form a labyrinth which it is impossible to thread without some guiding clue, and this clue can only be found in the abstract theory of the combination and interaction of presentations. To explain the phenomena of Cognition we must show how the nature and distinctness of the presented content is determined by mechanical relations of the corresponding presentative activities. To explain the phenomena of Feeling, we must refer to mechanical relations which exist between actual presentative activities without in any way affecting the content presented. Thus, whereas the psychology of Cognition attempts to account for the presented content, the psychology of Feeling assumes it, and only investigates the mode of presentation.

¹ Continued from MIND No. 51.

Desire is, according to Herbart, a composite process involving both cognition and feeling. Hence, in order of exposition it ought to follow them. We shall treat, then, first of Intellect, afterwards of Feeling and Desire. Finally, we shall turn to the complex problems connected with the Ego-consciousness and with the so-called "Inner Sense". (The numbering of the sections that here follow is continued from p. 338 above.)

§ 19. *Perception of Time-Series.* Suppose a presentation P to be fused with three other presentations Π , Π' , Π'' , by its three residua r , r' , r'' , then if r' lie between r and r'' in magnitude, Π' which is fused with r' will be reproduced between Π and Π'' which are respectively fused with r and r'' . This principle, which has already been stated in § 14, must be carefully borne in mind if we are to understand Herbart's account of space- and time-perception. The common character of all series is what Herbart calls intermediacy or betweenness. Intermediacy may be merely a mechanical relation between presentative activities, or it may be also a presented relation constitutive of the content of consciousness. For example, if a revives bed in such a way that c rises into consciousness less rapidly than b and more rapidly than d , c is mechanically intermediate between b and d because it comes between them in the serial order of reproduction. But this mechanical intermediacy neither is nor implies presented intermediacy. Presented intermediacy involves not merely the existence of a definite order of reproduction (§ 15), but the apprehension of this order as a content of consciousness. In other words, it implies a presentation of sequence as distinguished from a mere sequence of presentations. If the presented sequence be one-sided, passing only from a through b and c to d , we have the perception of a time-series. If it starts co-incidentally from both a and d and proceeds simultaneously from a through b and c to d , and from d through c and b to a , we have the perception of a space-series.

The problem before us in the present section may be stated as follows: What special mechanical connexion of actual presentative activities implies as its counterpart on the side of the presented content the appearance in consciousness of a time-sequence? According to Herbart the necessary conditions are fulfilled when a group of presentations already existing in consciousness in a state of involution (§ 14) evolves itself in serial form in one direction only.

Suppose a succession of sense-perceptions, which con-

stantly takes place in the direction *abcd*. The order of successive reproduction will be correspondingly one-sided (§ 14). Along with the successive reproduction there will always be a simultaneous reproduction, each posterior member of the series reviving anterior members co-incidentally in graduated phases of distinctness, diminishing in proportion to their remoteness from it in the original sense-given order. Assume now that *d* is given in sense-perception: *abc* will then be, in the manner described, simultaneously reinstated and maintained in consciousness in a state of involution. If at the same time *a* is reproduced in sufficient intensity to occasion the evolution of the series *abcd*, the conditions requisite to the perception of a time-sequence are satisfied. For (1) we have a series evolving itself which is already present to consciousness in a state of involution; (2) we have this evolution taking place only in one direction, passing always from the more obscured to the less obscured of the involved group, until it terminates in a presentation *d* which already exists in full distinctness. Thus there are presented simultaneously two terms of a series and the mode of transition between them, which is characterised by unity of direction, so that one term is distinctively the beginning and the other term is distinctively the end. According to Herbart this is all that is involved in the consciousness of succession in time.

§ 20. *Perception of Space.* A space-series, as distinguished from a time-series, has two characteristic marks. (1) In it the distinction of beginning and end vanishes or becomes arbitrary. (2) Every term of a spatial series is the meeting-point of an infinite number of other spatial series which are in their turn interwoven with each other by cross-series. We have to consider under what mechanical conditions relations of this kind become presented in consciousness. Suppose a group of presentations *abcd*, which has been given in sense-perception in the two opposite orders *abcd* and *dcba*: if *a* and *d* are revived together, the group will be coincidentally evolved from two distinct points in two opposite directions—i.e., from *d* to *a* as well as from *a* to *d*. The presentations *bc* are also reproduced in a state of involution both by *a* and by *d*. We thus obtain a series which, being already present to consciousness in a state of involution, evolves itself coincidentally in two opposite directions. Under these conditions the distinction between beginning and end vanishes and a series is presented in which the

terms are not successive but coexistent. This is the first essential character of a spatial order. The second essential character is the interweaving of each series of the kind described with an indefinite number of other series. This interweaving has already been described in § 18. We must suppose each member of a presented space-series to be connected with all members of all other presented space-series in such wise that on occasion lines of successive reproduction run to meet each other from every point. The formation of such a network depends on the occurrence of sensations in the order determined by movements of the sense-organs. The eyes and fingers shift to and fro in innumerable directions, occasioning every instant new sensations. Innumerable intersecting series are thus produced, each of which is characterised by the peculiar form of reproduction required for the presentation of coexistence.

The above statements apply only to the perception of linear and superficial extension. The third dimension is, according to Herbart, not perceived but inferred. It is impossible to follow him here in his discussion of this subject. Another point which must be left untouched is his account of the perception of special figures. I must, however, notice his very peculiar and characteristic explanation of the continuity of space- and time-series.

§ 21. *Continuity of Space- and Time-Series.* The nearness or remoteness of the parts of time- or space-series depends on gradation of intimacy in the fusion of the component presentations. If now a is fused through its residuum r with b , through a smaller residuum r' with c , and through a still smaller residuum r'' with d , under what conditions can we suppose it possible for c and d to appear in such propinquity to each other that nothing can be interposed between them? According to the law of intermediacy this could happen only if there were no possible residuum intermediate in intensive magnitude between r' and r'' . But this supposition is excluded by the very nature of a residuum. The residua of a presentation are in no sense parts of which it is made up. They are phases of distinctness dependent on the varying proportions in which it is obscured by other presentations. It may suffer an endless multiplicity of these grades of obscurity. Hence there never can be two residua r' and r'' , such that no third can be found smaller than the one and greater than the other. Therefore, from a psychological point of view, no two terms of a spatial or temporal series can be in propinquity so close that nothing can be interposed

between them. In other words, space and time are psychologically continuous.

§ 22. *Individual Thinking approximates to an unattainable Logical Ideal.* Logic treats not of the process of thinking, but of relations in the object thought of. The logical concept is the presented content considered apart from the psychological conditions and circumstances of its presentation at this or that time to this or that individual mind. Concepts in this sense, as the common property of all men and all times, are in no way psychological facts. All the marks which constitute a logical concept are equally essential. The parts of any psychological presentation are, on the contrary, of very different degrees of importance according to their relative intensity. The marks of a logical concept are all connected with each other by the same logical necessity. The parts of any psychological presentation are fused or complicated with various degrees of intimacy. From a logical point of view all co-ordinate species are of equal importance. The corresponding presentations as parts of a psychological mechanism may have very diverse degrees of dynamical efficacy. Obviously a state of consciousness in which a logical concept in the strict sense is presented, is an ideal which can never be completely realised. The concept, from a psychological point of view, is the process by which the individual mind approximates to this ideal. From the standpoint of the logician, there may be only a single concept of a triangle common to all mathematicians. From the standpoint of the psychologist, Newton had one concept of a triangle and Archimedes had another.

The psychological problem may be stated thus—How and how far are we enabled to abstract from the casual conditions under which a presentation from time to time appears in consciousness, so as to consider its presented content in relative detachment? According to Herbart there are three main steps by which this is accomplished. The first step is the process of isolation by which a presentation becomes more or less detached in consciousness from the various contexts with which it has been fused and complicated both at its first appearance and on the several occasions of its reproduction. A presented content, so isolated, may be called a crude psychological concept. The second step is the analysis of the crude concept by means of a group of judgments formulated in a group of propositions. The third step is the systematising of these judgments so as to produce a scheme of classification.

§ 23. *Isolation.* Isolation is due to mutual curtailment of series (§ 17). A presentation is the starting-point of a number of conflicting trains of reproduction, which obscure and enfeeble each other, leaving their common centre comparatively distinct as a presented content, and comparatively powerful as a factor in the psychological mechanism. This process gives rise to a more or less crude apprehension—(1) of objects in space as distinct from their space-environment, (2) of classes of similar objects, (3) of classes of similar events.

(1) According to Herbart, the content of consciousness would be given as a unity without inner partition of any kind, were it not for the conflict of presentations (§ 4). From this standpoint we ought not to ask how leaves, twigs, blossoms, branches and stem come to be combined in our apprehension of a tree, so as to appear a single thing. It is more pertinent to inquire how the tree comes to be apprehended as something distinct from the ground in which it grows. This and similar problems Herbart attempts to solve by reference to the process of mutual curtailment of series. We are enabled to distinguish a thing from its surroundings, inasmuch as its surroundings vary. For example, when we follow with our eyes the movement of an object, the psychological context in which it is presented and with which it combines, is different from moment to moment. It thus becomes the common centre of conflicting series, which more or less neutralise each other, and leave it distinct and dominant in comparison. In like manner, events in time become disengaged from their succeeding, preceding and accompanying circumstances.

(2) Crude class-concepts arise in a quite analogous way. Like elements in a multiplicity of partly similar presentations fuse with each other to form a total force. The contrary elements mutually suppress each other, and thus form a dim margin of competing alternatives. A similar result follows from repeated presentation of the same individual thing or person in varying conditions. In this case a crude concept of the individual is generated, essentially similar to the crude concept of a class.

(3) Crude general concepts of events come into being in exactly the same manner as crude general concepts of things. They constitute the rude form of 'laws of nature,' as presented to the consciousness of the man of science.

The next stage in the development of the concept depends on the formation of judgments in which subject and predicate are definitely discriminated.

§ 24. *Judgment.* Every familiar object within the circle of our experience gives rise from time to time to new sense-perceptions, which revive pre-formed similar presentations, and fuse with them. In this manner the crude concept continually assimilates fresh material. From a psychological point of view, we may call each instance of such assimilation a judgment. But judgments in this broad sense will not help us to advance from the crude to the developed concept; for they are by definition nothing more than the successive acts by which the crude concept is formed. Assimilation of the kind described may take place before we are aware of it. It need not involve any distinct consciousness of antithesis between the combining groups, or of the process through which they become united. The logical form of judgment, in which subject, predicate and copula are clearly distinguished, is not, therefore, necessarily implied, whenever a new experience blends with the psychological resultant of previous similar experiences. We have now to consider (1) under what special condition the logical form of judgment does appear in consciousness, and (2) how it affects the development of the concept.

Herbart's answer to the first question is that the distinction between subject and predicate is apprehended only when the process of assimilation is obstructed and delayed so that the factors involved in it can be discriminated and separately named. This is the case when the fusion of similars cannot be completed without previous conflict of appreciable duration between certain components of the assimilating group, which corresponds to the logical subject, and opposed elements in the new material to be assimilated, which corresponds to the logical predicate. The conditions under which this may take place are manifold. Judgments are often occasioned by a striking change in an object during the moment of perception; *e.g.*, the exclamation, 'They run,' when an enemy is put to flight. Objects which are partly familiar and partly unfamiliar give rise to a very large and important class of judgments. The child who has seen sheep a great many times ceases expressly to notice the fact that they are sheep. But if for the first time he sees one with black wool, fusion between the new experience and the mental pre-formation is delayed, so that a judgment takes place, in which subject and predicate are discriminated.

The above examples involve a relation between a sense-perception and pre-existing mental elements. But judgments also arise, independently of sense-experience, through the internal working of the psychological mechanism. One

concept, crude or developed, may tend to assimilate another, containing components which resist assimilation.

It may happen that the conflict between subject-group and predicate-group results not in their union, but in the exclusion of the latter from consciousness. This process of exclusion, when it occupies an appreciable time, is represented by the negative copula.

It is obvious that what is essential to the act of judgment may be common both to man and other animals. What is distinctive of human intelligence is not the act of judging, but the expression of the judgment in words. The function performed by Language is twofold. In the first place, it gives a permanent embodiment to the judgment, which is in itself a transient process, ceasing to exist so soon as its product comes into being. This use of language makes possible progressive analysis of the crude concept into a series of predicates permanently formulated in a series of propositions relating to the same subject. We may adduce as a most important instance of this operation the analysis of sensible things into groups of qualities. The child sees sugar, takes hold of it with his hand, and puts it in his mouth. These sensations blend at first in a single unanalysed presentation. It is only through acts of judgment which become possible with an enlarged experience that the tactile sensation, the visual sensation and the taste-sensation become severally distinguishable. By the expression of these judgments in verbal forms, which become part of the permanent content of the mind, it becomes possible to resolve the thing into its qualities. We can then distinguish the thing from the sum of its qualities only by regarding it as the unknown cause of their union.

The second great function of Language is to stimulate the formation of judgments. Whenever the same object suggests two appellations, one of which is finally suppressed and the other preferred, an act of judgment takes place, ascribing to the presentation-group connected with the rejected word a predicate incompatible with the given object. At the same time this predicate is denied of the presentation-group which constitutes the meaning of the word selected. By judgments of this nature the signification of words becomes progressively more fixed and determinate. The application of the same term to a plurality of objects gradually comes to depend, not on a vague general resemblance, but on likeness in certain definite respects. As words thus come to be applied in a definite and unvarying way, the concepts, with which they are connected, become *ipso facto* precise and

stable, as regards both what they include and what they exclude. In ordinary thinking, this process is very imperfectly carried out, so that almost all general terms familiar in common life are used with a certain laxity, implying variability in the corresponding concepts. But in scientific terminology such vagueness disappears, or ought to disappear, each technical word being used always in the same sense, as fixed by exact definition.

§ 25. *Classification.* Classification depends on the arrangement of predicates in a serial order determined by their qualitative affinities, so that any two differ less the more they approximate in the series (§ 14 *ad fin.*). A number of judgments, such as A is *a*, A is *b*, A is *c*, A is *d*, give rise under favourable conditions to a series *abcd*, in which the intimacy of fusion between the terms varies inversely as their mutual contrariety. Series of this kind are in form analogous to the spatial, differing only in their genesis. Hence in speaking of them we are compelled to use expressions which have the appearance of being metaphorical, because they are wrongly supposed to refer primarily to space-relations. Thus tones of various pitch are spoken of as forming a linear series, on which intervals can be measured. Similarly violet is said to lie between blue and red, and orange is said to lie between red and yellow. These and the like expressions are by no means mere metaphors. They depend on the essential analogy between space-series and qualitative series. By means of these quasi-spatial series we are enabled to institute comparisons, in which we estimate the amount of likeness between presented contents, instead of vaguely recognising that they do or do not resemble each other. For the attributes compared present themselves as terms of a series separated from each other by intervening terms which measure, so to speak, the qualitative distance between them.

We are now in a position to explain the co-ordination and subordination of concepts, in which classification consists. Concepts are co-ordinate in so far as their constituent predicates can be arranged in qualitative series. A concept defined by predicates standing for these series as wholes, instead of this or that special term composing them, is the genus to which the co-ordinate concepts are related as subordinate species. Thus the generic concept of a bird is constituted by characters, severally susceptible of those graduated modifications which form the specific marks differentiating one class of birds from other co-ordinate classes.

§ 26. *Space and Time as conceived.* We must distinguish between perception of the spatial and the temporal in this or that particular presentation, and conception of time and space as pure forms of succession and coexistence. The origin of space- and time-concepts is due primarily to fusion and reproduction of series arising from their likeness in serial form, accompanied by mutual obscuration of their specific contents arising from qualitative contrariety between them.

The main stages of the process in the case of space are according to Herbart as follows. We perceive an object moving against a diversified background, and at every moment it is presented in a new spatial environment. Let us call the perceived object A and its successively perceived environments *p*, *q*, *r*, *s*, &c. From a psychological point of view *p*, *q*, *r*, *s* are series differing in the quality of the sensations composing them, but agreeing in so far as they are all space-series of a similar form, and in so far as they all bear a similar spatial relation to A. Since A has been co-presented with *p*, *q*, *r*, *s*, &c., it will tend to reinstate them all in consciousness whenever it is itself reproduced. In such collective reproduction *p*, *q*, *r* and *s* will reciprocally obscure each other in so far as they are composed of contrary presentations, and they will support each other in so far as they agree in serial form. Thus A will appear in consciousness as the centre of series which are distinctly spatial in form and bear a distinct spatial relation to it, but which are in the highest degree dim and indeterminate as regards their material content. Suppose now that we have similar experiences in the case of a number of other objects, B, C, D, and suppose that the obscure spatial environment, which attaches to B, C, D, bears to them a relation similar to that which the obscure spatial environment of A bears to A. A, B, C, D will then fuse with each other and reproduce each other in virtue of their purely formal similarity, although they are opposed in other respects (§ 16.) Hence arises the crude psychological concept of a spatial configuration. From this it is only a step to the crude concept of space in general. We have experience of an indefinite multiplicity of spatial figures, agreeing and differing in an indefinite multiplicity of ways. But in one respect they all agree, *i.e.*, in being constituted by some space-relation. Accordingly there is generated a presentation in which only the space-form in general is relatively distinct, all special configuration being dim and indeterminate, owing to reciprocal arrest.

§ 27. *Presentation-masses.* It is impossible that psychological series should uniformly be reproduced in an order determined entirely by the union *inter se* of the terms composing them. They are always subject to more or less serious modification arising from the action of other presentations which happen to be in consciousness at the moment, or which they themselves recall by immediate reproduction. Familiar illustrations may be taken from the falsifications of memory, which are constantly occurring in ordinary experience. We fail to note gradual alteration in persons with whom we are in constant intercourse, because from day to day reproduction of the past is moulded by present perception. Now in so far as the flow of presentations, instead of being restricted to a fixed serial form predetermined by preceding experience, is thus subject to variations caused by the casual concurrence of previously unconnected elements, we have what Herbart calls "the uncontrolled play of the psychological mechanism". This is to be found in the most striking form in children and uneducated persons. The conversations of Mrs. Nickleby may serve as an illustration. The uncontrolled play of the psychological mechanism gives place to disciplined thinking, in so far as presentation-masses come into being, which are reinstated and maintained in consciousness without lasting or important modification from extraneous conditions, because their mode of reproduction is determined mainly and ultimately by the internal connexion of their components. This relative independence and permanence is due to their mechanical predominance, whereby they repress whatever is antagonistic to them. Such mechanical predominance is founded on (1) the multiplicity and intensity of their component presentations, (2) the intimacy and the manifold interweaving of the combinations by which these components are interconnected. It must be carefully noted that this internal cohesion and consequent stability is largely due, and is sometimes wholly due, to fusion which arises from similarity in serial form. To estimate the importance of this consideration, we must bear in mind that presentation-masses consist not of simple series, but rather of series of series. In the course of a varied experience many distinct masses are formed connected with special localities and occupations, such as the church, the theatre, the office, the garden, the chess-board, and the like. To each of these may correspond a large and powerful group, of which the constituents cohere *inter se* with such strength and complexity of interconnexion, that the whole victoriously

maintains its characteristic form against interfering conditions.

A presentation-mass may be a concept, or it may be a system of concepts, such as the Hegelian logic in the mind of Hegel, or it may be without any assignable logical organisation, as for the most part those masses are which constitute ordinary common sense.

§ 28. *Apperception.* Apperception is the process by which a presentation-mass assimilates relatively unstable groups, fusing with homogeneous, and repressing antagonistic, elements. The new material assimilated may be either given in sensation, or reproduced by the internal working of the psychological mechanism. In the former case the process is called outer apperception; in the latter it is called inner apperception; in both it is essentially similar as regards its stages and results. Herbart lays great stress on this analogy, which is of the highest importance in the explanation of what is called inner perception, or, less accurately, the inner sense. In outer apperception the sense-affection is produced before it is apperceived. At the outset it possesses more unarrested intensity than is compatible with the conditions of equilibrium. Hence it has an initial advantage in the conflict with pre-existing contrary presentations, so that it causes them to sink towards the mechanical threshold, or even below it. At the same time, by immediate reproduction, it recalls or raises to fuller distinctness presentations which resemble it. These emerge slowly at first, but with gradually increasing rapidity.

This is the first stage of the process; in it the sense-given presentations are relatively active and the mental pre-formation is relatively passive. In the second stage this relation is reversed. As susceptibility to external stimulation diminishes, the sense-affection receives less and less support from this source. The initial advantage which it possessed by reason of its comparative remoteness from its statical point ceases to exist as equilibrium is gradually restored. On the other hand, the pre-formed presentation-mass rises more and more into consciousness, and brings into play the superior strength which depends on its internal cohesion and the multiplicity of its components. The more any of these are arrested, and the longer the process lasts, the more strongly is the reproductive energy of the rest called into action. For the help rendered by α to β increases in proportion as β sinks beneath the phase of distinctness in which it was originally co-presented with α (§ 13; cp. also § 32). Now, the growing

dominance of the pre-formed mass would merely cause the repression of the sense-given group, were it not for the points of affinity between the two. So far as they are homogeneous they fuse. The apperceptive group retains in consciousness what is kindred to itself, and at the same time represses what is antagonistic. The result is that after suffering considerable modification the sense-given group becomes incorporated with the pre-existing system of presentations.

In the case of inner apperception we must assume the concurrence in consciousness of a stable and powerful mass and of a comparatively weak and unstable series. We must further assume that the weaker group has a temporary mechanical advantage, because it is at the outset considerably above its statical point. This is always the case when the weaker group rises first and the stronger is subsequently reproduced. Moreover, there must be points of community between the two, in virtue of which they fuse, so that the weaker is retained in consciousness by the stronger, when it would otherwise sink. Finally, there must be points of antagonism, so that the stronger cannot fuse with and uphold the weaker without modifying it considerably. When all these conditions are fulfilled, internal apperception takes place. When any of them is unfulfilled, it fails to take place. There is no need to describe its successive stages, as they are essentially similar to those of external apperception.

§ 29. *Apperception as a Condition of Perception.* To be in consciousness is not the same thing as to be an object of consciousness. He who is engrossed in thought or in observation of some interesting object fails for the time to take notice of aught besides. Yet he may afterwards recognise that he has been affected by many sensations of which he was not at the moment aware. There is always a dim margin of presentations, which, though not distinctly attended to, are none the less components of the total conscious state. No one is clearly aware of all the motives which urge him to an action, where these are highly complex. The poet or artist does not as a rule analyse the mental processes by which his works are produced. It is therefore necessary to inquire under what conditions a presented content acquires that peculiar distinctness, which we express by saying that we notice it, observe it, or attend to it, or that it is an object of notice, observation or attention. The solution of this problem will also enable us to explain the use of the word Perception in ordinary language. For

we are accustomed to say that we perceive things and events, physical or mental, when we notice them, and not otherwise. Herbart's answer to the question before us is that, as a rule, in our developed consciousness, a presented content becomes an object of attention only through the apperceptive process. In the case of sense-perception, the strength of the external stimulus and the susceptibility of the subject contribute more or less to the result. But they are very rarely the sole, or even the dominant, conditions, at least in the developed mind, which is organised into stable presentation-masses. Practically, Herbart treats apperception as the sole constant condition of attention. Apperception is, in fact, from the mechanical point of view, what attention is from the point of view of the presented content. We are now in a position to understand how it is that an inner sense is currently supposed to exist analogous to the outer senses. The analogy breaks down completely, if we construe it as meaning that psychological processes must make an impression upon some inner-sense organ or faculty, as physical stimuli affect the eye or ear. But there is a real analogy in so far as the apperceptive process is implied in both cases; so that, if we may not speak of an inner sense, we are at least justified in speaking of an inner perception, provided that we use the word perceiving as synonymous with noticing. In the light of this doctrine it is easy to understand why different persons, or the same person at different times, have different perceptions under similar circumstances. For all depends on the nature of the dominant apperceptive masses, and these vary indefinitely according as individual experience varies. A skilled musician may easily fail to notice a grammatical blunder; but he will distinguish out of a large choir of voices the one which is at fault. The physician perceives in a moment symptoms which have escaped the long and anxious scrutiny of friends and relatives. The man who is in the habit of examining and criticising his own motives will often detect in himself impulses which might have existed in greater strength, in less introspective minds, without their presence being suspected. It would serve no purpose to go on multiplying instances. The general principle which needs to be emphasised is that, in order to account for a perception (in the broad sense of the word), we must indicate the apperceptive mass through which it is possible, and show how this apperceptive mass is formed.

§ 30. *Categories of Outer Perception.* Thus, if we ask how

the relations expressed by the words Cause, Effect, Substance, Attribute, When, Where, Whence, &c., come to be objects of consciousness, we can only answer by referring to certain concepts, which primarily come into being through fusion by reason of likeness in form. So far as such concepts, functioning as apperceptive masses, mediate the perception of particular terms in particular series, they occasion judgments, which have for their predicates what Aristotle called Categories. It is only when particular space-series are apperceived by the space-concept in general that we recognise spatial position as such. It is impossible here to follow Herbart in his detailed treatment of the special categories or ultimate formal aspects of physical things. The categories of inner perception, or ultimate formal aspects of psychological phenomena, as such, will receive special consideration later on by way of introduction to the discussion of the Ego-consciousness. We must now discuss Feeling and Desire.

§ 31. *Feeling.* The mere rising and sinking of presentations, together with the order in which this rising and sinking takes place, involves no modification of consciousness except such as directly affects the nature and distinctness of the presented content. But there are certain modes of mechanical interaction, which must have some counterpart in consciousness, because actual presentative activities are implicated in them, and which nevertheless need involve no variation in the content presented.

An arrested presentation, on removal of the arresting conditions, will of itself rise into consciousness independently of extraneous help. In such a case, what takes place is merely the emergence from total obscurity and the gradual increase in distinctness of a presented content, and there is no reason for supposing that any further modification of consciousness is involved in the process. Now if the presentation referred to not only emerges of itself in the manner described, but is at the same time acted on by the reproductive energy of allied presentations, what modification of consciousness will this added circumstance imply? Mechanically, there is an increase of the total force through which the presentation rises. But there is not a corresponding increase in the rapidity with which it rises; for this is proportioned—not to the sum of the reproducing forces but—to the greatest single force among them. Now, according to Herbart, the excess of the sum of the forces in operation over what is required for the result actually produced exists for

consciousness as an agreeable feeling. Under this head we may instance the pleasures of gratified expectation, including in part those of successful activity, which are to a large extent due to immediate reproduction by sense-perception of presentations already emerging through the internal working of the psychological mechanism.

This coincidence of free emergence with mediate reproduction is only one case in which the total reproductive force is more than adequate to the effect produced by it. It is therefore only one source of pleasurable consciousness. Pleasure may be defined as consciousness of the support which presentations yield to each other, and this consciousness arises if, and so far as, the support yielded is superfluous in the way described. Thus, whenever a presentation rises with a certain rapidity or is maintained in consciousness in a certain degree of distinctness, by the simultaneous operation of auxiliary presentations which collectively constitute a greater force than is required for the purpose, agreeable feeling must result. Here belongs the pleasure felt in contemplating a conclusion led up to by many independent but converging lines of argument.

The condition of pleasurable feeling is also fulfilled whenever a number of series which have severally to contend against the same obstacles evolve themselves concurrently in consciousness. The more fully each emerges, the more completely is the common resistance overcome, so that it becomes easier for the others to rise. In other words, there is a progressively increasing preponderance of the forces through which the series evolve over the forces which tend to suppress them. Hence results a feeling of satisfaction, joy or exultation. The pleasure of dancing to music is an obvious example under this head.

Further, if two previously disconnected presentations coincidentally emerge in clear consciousness and immediately fuse with each other, they form a new total force, and the statical conditions are therefore altered in their favour. Thus the series to which they belong acquire, *ceteris paribus*, new energy and freedom. Something of this kind occurs whenever an unanticipated conclusion is obtained by logical combination of known data.

Agreeable feeling arises when, and so far as, the mechanical union of presentations has a counterpart in consciousness which is not in any way a modification of the presented content. Similarly, painful feeling arises if, and so far as, the mutual arrest of presentations has a counterpart in consciousness which does not affect the nature or distinctness

of the content presented. This occurs whenever one and the same presentation is simultaneously acted on by others, some of which tend to suppress and others to support it. In such a case conflict continues to exist without exclusion from consciousness of the conflicting presentations. It must therefore occasion a tension existing in and for consciousness. This modification of consciousness is a painful feeling. Accordingly disagreeable consciousness is present when a presentation rises by mediate reproduction which would not have risen apart from it, or when from the same cause it sinks more slowly than it would otherwise have done, or when it is maintained against repressing forces in greater distinctness than its own unaided strength would yield. We may take as an illustration the feeling of tediousness which is produced by a speaker in his hearers when they fail to keep pace with him, either because their thoughts flow too fast or too slow. In either case his words are perpetually setting in motion trains of presentations, which they as constantly suppress. A special source of painful feeling is the existence of presentations beneath the mechanical threshold. These influence the course of events within consciousness without being themselves presented. Their operation is felt as a painful pressure, especially noticeable in those restless moods which it is difficult to refer to any definite cause. Pleasing and painful feelings originate also in the process called "fusion before arrest" (§ 10). Fusion before arrest is a source of pleasure if, and so far as, either the tendency to fuse predominates over the resistance to fusion, or, inversely, the resistance predominates over the tendency to fuse. It is a source of pain in proportion as the two tendencies approach equipoise. Herbart applies this theory in detail to the explanation of musical concords and discords. He holds that most elementary æsthetic feelings are to be accounted for in a similar way.

Purely sensuous pleasures and pains are explained on the same lines. Only in their case the presentations between which fusion takes place are not separately discernible. They are merged in a single distinctionless *quale*, which defies all attempts to resolve it into its component parts.

Before concluding this section it is necessary to lay stress upon a point, apart from which Herbart's doctrine of Feeling would be a chaos of confusion. We have considered the conditions of pleasure separately from the conditions of pain. But in almost every concrete state of consciousness both are present coincidently. For instance, when a presentation rises against obstacles by help of other presentations with

which it is fused or complicated, although if dependent only on its own strength it could not have risen, then according to the above statement disagreeable feeling must attend the process. But if the forces, by help of which the presentation rises with a certain rapidity, are more than adequate to cause it to rise with this rapidity, an agreeable as well as a disagreeable feeling must be present. This and similar cases are fully accounted for, when we turn to actual experience. It is the view of common sense that unmixed happiness is hardly attainable even for a moment. Unmitigated misery is also supposed to be rare, though perhaps not equally so. In almost every state of consciousness elements of satisfaction and dissatisfaction interpenetrate. We are happy or unhappy only *a potiori*.

§ 32. *Desire and Volition.* Desire is, according to Herbart, a composite mode of consciousness, belonging on the one hand to the region of feeling, on the other to that of the presented content. It has no unique character by which it can be marked off from both. A desire exists when a presentation rises by help of another in spite of resistance offered by a third. This process involves, as we have seen, accompanying feeling, painful or pleasant, or both. It also involves variation in the distinctness of the content of the emerging presentation. Besides this, there is a progressive modification of the content of consciousness as a whole; for as the presentation rises it revives and represses others. If the rising presentation reaches a certain stage of distinctness and dominates the total mental state to a sufficient degree, bodily action results; or if external opportunity be wanting, a disposition of the psychological mechanism is produced, which gives rise to the action so soon as the external opportunity arrives. All these circumstances are connoted by the word Desire. That disposition of the psychological mechanism which results from desire and gives rise on occasion to action is called Volition. The volition before it is carried out is an intention.

In the case of sense-desires, such as hunger, thirst, &c., the help through which the desired object rises in consciousness is an organic sensation. Non-sensuous desires depend on the action of the presentation-masses which are dominant at the moment. We feel a very appreciable and often a painful desire when a familiar object is missed. A picture, for instance, is gone from the wall of our room. All the surrounding objects recall it, while the view of the empty space on the wall simultaneously suppresses it. Accordingly

we feel the want of the picture. In other words, we desire it. Of course the strength of a desire depends on the strength and complexity of the union of the desired presentation with other components of our conscious state.

One point which requires special notice is the mode in which desires are intensified by being thwarted. If we try to open a door and fail, we feel a desire to open it which, *ceteris paribus*, becomes more eager the longer our attempt is frustrated. This depends mainly on the different rapidities with which different reproductive forces operate. Suppose a series a, b, c, d , such that a is combined with d by a smaller residuum than b , b by a smaller one than c , then, apart from hindrances, the rapidity with which d is reproduced will depend wholly on c , which is the strongest force operating to reproduce it. The others are, so to speak, forestalled, since d is already rising with a greater rapidity than they could communicate to it. But if d is checked in its emergence the case is altered; for, instead of rising with greater, it may now rise with less rapidity than it could derive from the reproductive energy of a and b . In so far as this takes place, we may regard the emergence of d as dependent on the sum of the forces a, b and c . This process, by which d has recourse, as it were, to its reserves may be indefinitely extended. It may take place simultaneously in the series A, B, C, d and a, β, γ, d , as well as in a, b, c, d . It must also be noted that the longer the desire thus swells like a stream against a barrier, the more fully do connected groups of presentations evolve themselves. If $a, b, c, d, A, B, C, d, a, \beta, \gamma, d$, are thrown into a state of tension, then from the several members of these series collateral trains of reproduction may evolve themselves, and combine with each other, if they are not already in combination. Thus the hindrances which thwart desire may in a high degree promote the development of the individual mind. "Necessity is the mother of invention."

§ 33. *Apperceptive Masses as Permanent Seats of Feeling and Desire.* Feelings and desires are reproduced only by reproduction of the combinations on which they depend. Hence a permanent grouping of presentations involves also permanent predispositions to certain desires and feelings. Thus the great apperceptive masses become the seats of special moods, cheerful or melancholy, and tendencies to special kinds of actions. In this manner is constituted what we call the character of a man. If the apperceptive mass, which is the seat of a settled desire, has the concept-form,

the result is generalised desire—*i.e.*, recognised maxim or principle of conduct. In so far as the apperceptive masses of an individual mind are connected with each other in the relation of part to whole, so that the more comprehensive can on occasion apperceive the less comprehensive, the resulting character is reasonable and consistent. In so far as they are disconnected, instead of being organised into a system, the resulting character is unreasonable and inconsistent. A man with a mind of this type is called a creature of impulse, a slave of passion, &c.

§ 34. *Categories of Inner Perception.* The categories of inner perception depend on the formation of concepts, crude or developed, which have as their common character some purely psychological relation, the specific qualities of the related presentations being indefinitely obscured. By purely psychological relations are meant forms of combination among presentations other than those by which sense-perceptions are connected *inter se*. Sense-perception itself, so far as it involves apperception, is constituted by a psychological relation. For it exists only in so far as sense-given presentations enter into combination with pre-formed masses. Hence by indefinite repetition of sense-perceptions a crude concept comes into existence, having as its common character the peculiar form of interaction which takes place between the mental pre-formation and a new presentation, arising independently of the reproductive working of the psychological mechanism. A sense-perception is recognised as such only when it is apperceived by a concept of this kind. Similarly, there may arise a crude concept in which the form common to all apperceptions is dominant, all else being obscured. By means of this concept the relation between subject and object is recognised, at least in its purely cognitive aspect. If the subject is to be recognised, not merely as knowing but also as willing, at least a crude concept of volition must exist. The salient character in this case is the general form of process, according to which a desire, having acquired a certain intensity and predominance, is followed by a series of sense-perceptions, beginning with movements of the body and ending in the satisfaction of the desire. The same mass to which the desired presentation belongs apperceives the sense-perception through which it is satisfied. It is at once the starting-point and the termination of the whole series of changes. It is at once active and passive, initiative and receptive. From both points of view it is regarded as a subject: from the one as subject knowing,

from the other as subject willing. Now that we have found the relation between subject and object, it is time to investigate the Ego-consciousness.

§ 35. *Psychological Problems relating to the Ego.* In the most highly developed human experience the Ego is recognised as having three distinctive marks. (1) It is the permanent centre of conscious experience. (2) It is one and indivisible. (3) It is a subject which is aware of itself and of all else. Our problem is to show through what apperceptive mass a presentation, having these three marks, can become an object of consciousness. The most convenient mode of approaching the question is to begin by investigating the recognition of the Ego as something permanent throughout the ever-changing phases of conscious experience. It is obvious that in order to account for this we must discover some presentation-mass which apperceives, or at least is capable of apperceiving, every presentation. Following Herbart's plan, we shall consider this question first in relation to the earlier stages of mental development, and then pass to the more advanced.

§ 36. *The Body-complex.* The child in early stages of its experience refers to itself by name as if it were a third person. It says for instance, 'Charles will eat, walk,' and the like. Now what is this something which the child names before it uses the word 'I'. What is the omnipresent group of presentations which pervades the varying phases of its conscious life? Herbart answers that the persistent constituent of its experience is at the outset the presentation-complex which arises from the perception of its own body. In this perception is included not only the seeing and touching of the limbs, but also organic and muscular sensations. Hence arises a highly composite complex analogous to those which constitute the presentations of external things. The unique character of the body-complex is contained in the fact, that it is always apprehended along with everything else, and that the resultant presentation-mass mediates the apprehension of everything else, being co-apperceptive in all apperceptions. The next step in the development of the Ego-consciousness is the distinction between animate and inanimate objects. Under certain circumstances the child himself feels pain or pleasure, and in consequence behaves in a certain manner. When he observes other things under similar circumstances behaving in a similar manner, he ascribes to them also pain and pleasure, and regards them

as alive. When, on the contrary, he can trace in their behaviour no analogy to his own, the tendency to regard them as alive is repressed. Thus he comes to frame negative judgments denying life to such objects. In this way a new determination is added to the body-complex. It is recognised as a living, in contradistinction to a lifeless, thing. The next stage is a highly important one: it depends on the distinction between those living things which contain within them representations of things external to them, and those which do not. This point of view is of course extremely crude, but it constitutes an essential step in the development of the Ego-consciousness. The mode in which it originates will be most clearly exhibited by an example. A child sees a dog run away from the stick which is raised to strike it. He cannot fail to think of pain as already felt by the dog before the blow. Only the pain will be thought of as anticipated, not as real. Moreover, he figures the stick as present to the dog, *i.e.*, as in some sense within the dog. Otherwise the dog would not run away. But it is obviously not the real stick which he thinks of in this way; for the real stick is external to the dog. It is therefore an unreal stick, *i.e.*, the representation, or image, or idea of the stick. For an image is that which appears like a thing, and which, nevertheless, is not the thing itself. Thus the child regards the dog as having within it a representation of what is without it. This point of view, acquired in the first instance by observation of other living beings, he easily and inevitably transfers to his own case, inasmuch as he comports himself in an essentially similar way. He is now, therefore, able to regard the various objects of his consciousness as having a common character pervading their differences, *i.e.*, as being representative images of something other than themselves. This is a most important addition to the central and permanent mass constituted by the body-complex. Let us now consider the various elements which may fairly be regarded as constituting the Ego-consciousness at this stage. We find, then, the presentation of the body (1) as a visible and tangible object, the spatial centre by reference to which the position of other things is determined; (2) as connected with organic sensations, which accompany it as they accompany no other object of consciousness; (3) as containing representations of things external to it, which remain with it when the realities represented are absent; (4) as containing desires dependent for their gratification on its nearness or remoteness from the thing represented by the presentation which is the immediate object of desire; (5) as the starting-point of those

series of changes which follow volition; (6) as containing objects of inner perception which are regarded as composed of representative images (ideas).

In this phase of evolution the apperceptive mass which mediates the Ego-consciousness has as its core, round which all other determinations are grouped, the presentation of the body as a thing in space. We have now to consider the process by which the body-complex recedes gradually into the background, until finally a philosophic concept of the Ego is possible, in which it plays no part at all.

In the first place, the susceptibility of the subject for sensations so familiar as those usually occasioned by his own body becomes very small, unless under exceptional conditions. On the other hand, the total system of representations, which is at the outset regarded as localised in the bodily organism, grows immensely as experience advances, both in extent and inner organisation. The use of language has a great influence in promoting this result. Through language the absent in space and the past in time are recalled with a vividness often sufficient to obscure present sensations. The vivid recall of presentations of the past is of special importance. As one event after another is revived by a succession of appropriate words, they tend to combine with each other more and more completely in a single unbroken time-series, embracing the history of the individual as a whole. If, now, a man is able in this manner to recall a portion of his own history, during which his body has suffered important change in size, form or otherwise, the body-complex to that extent acquires conflicting characters which obscure each other. To that extent, therefore, it ceases to form part of the Ego-complex.

§ 37. *The Ego-consciousness disengaged from the Body-complex.* Even in this modified form the body-complex must cease to be an integral part of the Ego-complex. As the mental system grows in extent and in organisation, the importance of external perception becomes less and that of inner perception becomes greater. Moreover, inner perception ceases to depend, as originally it did, on any reference to the body even as a repository of representative images. The concepts of psychological relations come into being and act as apperceptive masses, mediating the apprehension of the categories of inner perception—e.g., willing, thinking, perceiving, &c. Hence, in the retrospect of his past history the individual recalls many phases of his conscious life in which the presentation of the bodily organism plays no

appreciable part. Now, when the body-complex thus ceases to be a constituent of the permanent mass which mediates the Ego-consciousness, what is there to take its place? What presentation-group can function in the later stages of mental evolution as the body-complex does in the earlier? The masses on which the categories of inner perception depend are more permanent and comprehensive than any others to which we have hitherto referred. But even these do not satisfy the required conditions. They are not capable of being co-apperceptive in all apperceptions. We are not always merely willing, or merely perceiving, or merely thinking, or merely feeling. The apperceptive mass which shall enable us to say with clear consciousness of our meaning, 'I will,' 'I perceive,' 'I think,' 'I feel,' must be one in which the distinctive features which differentiate willing, perceiving, thinking and feeling are obscured, leaving in relative dominance some character common to all of them. Now this ultimate characteristic can be nothing else but psychological relation in general; *i.e.*, the inter-connexion of presentations which is implied in their union in one consciousness. The specific qualities of the presentations are indifferent. The specific forms of their combination are indifferent. These may change from moment to moment, while the Ego-consciousness remains the same. So far as the all-embracing group thus constituted comes into play in apperceptive processes, the original unity of consciousness becomes an object of consciousness. When this happens we are aware of that which the word 'I' signifies for the developed consciousness. The nature of the apperceived presentation may, and does, vary indefinitely. The Ego perceived may be the Ego willing or the Ego feeling; the objects of volition, knowing and feeling change incessantly. Some one or other of these determinations must be present if the Ego is to be an object of consciousness at all; but none of them can be regarded as essential. The object of self-consciousness is in fact a complex in which each and all of the constituent parts can be dispensed with, so long as there are others to take their place; *i.e.*, so long as the unity is preserved for which it can be called a complex at all.

§ 38. *The Ego as an Indivisible Real Being.* By a process analogous to that which leads us to refer the attributes of a sensible thing to a single substance in which they are somehow united, we come also to regard the Ego as a simple real being, distinct from the specific determinations which it assumes from moment to moment in endless vicissitude. The complex which constitutes the presentation of a physical

thing is primarily apprehended as a distinctionless unity. When by a series of judgments it has been analysed into a plurality of qualities, the tendency to regard it as a unity still persists. The unity which we are unable to find in the complex itself is posited as a substance on which the complex depends. In like manner the unity of the Ego cannot be identified with all or any of the multiplex and mutable phases in which it is presented. Hence we are driven to posit a simple substance to which they are all referred. This is what is called the soul. But if we push our inquiry further and ask how and when we perceive this simple and permanent substance, we discover that we do not perceive it at all, but only assume it.

§ 39. *The Ego as Self-determined, and especially as Self-known.* Selfhood is a characteristic which is very far from being confined to the Ego. There is not only a myself, but a thyself, a himself and an itself. The water forces a way for itself; fire burns itself out; a germ develops itself. Before we can profitably discuss the self-determination of the Ego, we must first investigate the general meaning of the word 'self' as it is used in instances such as these. Now in all cases in which we thus speak of a thing acting on itself, it will be found that a re-entrant series of changes is involved. The thing initiates a train of events which also terminates in it. The water flows in a deeper bed than before. The deepening of the bed is viewed as due to the action of the same water which flows in it. Psychologically, the perception of such a process may be thus represented. Suppose a complex aAa to be presented, and let the series abc evolve itself. Suppose, further, that a second series $c\beta a'$ is reproduced by the evolution of abc . By reason of the similarity of a' with a , they will fuse, and the whole complex aAa , in which the process originated, will be raised and maintained in consciousness. This psychological movement would proceed in a perpetual cycle were it not for interference from other presentations. Cases of this kind, in which homogeneous elements forming the starting point and the termination of the same or of connected series meet in consciousness, fuse with each other and emerge with united force, may be repeated indefinitely in the course of a varied experience. By this means a concept of self-determination is generated; the general form of process is alone dominant, all else being comparatively obscured. Particular instances of self-determination become recognised as such, when they are apperceived by this formal concept. Selfhood is therefore a category in the Herbartian sense.

Now the concept of self-determination is perpetually called into play in the apperception of processes both within the Ego-complex proper, and within the body-complex, which does duty for it in the earlier stages of mental development. Every purposive action ends in the satisfaction or the disappointment of the desire in which it originates. The Ego which wills is the same Ego which is satisfied; therefore in willing the Ego finds itself. An animal seeks food, and the same animal enjoys the food. A man moves hand or foot, and the same man sees the movement. We represent our thoughts in words; the words in turn give us back our thoughts; and we say that we have expressed *ourselves*,—well or ill, as the case may be.

Recognition of the Ego as self-determined depends (1) on apperception by the Ego-complex, for without this the Ego would not be an object of consciousness at all; (2) on apperception by the general concept of self-determination. Thus self-determination is a category of inner perception, just as willing, feeling and judging are; and it stands in the same relation as they do to the supreme category which is expressed by the word 'I'.

To prevent misconception, it may be well to remark that those elements of the re-entrant series, which fuse and emerge with united strength, are, as parts of the psychological mechanism, only homogeneous, not identical. This is one of the innumerable instances, in which what is psychologically composite appears as a single object of consciousness.

In the light of the preceding discussion it is easy to show how the Ego appears to be its own object. In order that it may be an object of consciousness at all, apperception by the Ego-complex is necessary. This apperception may in its turn be apperceived by the same complex, and through the new apperception also the Ego becomes an object of consciousness. The two Ego-presentations fuse, and appear as one. Thus the identity of the 'I' as subject and the 'I' as object is a case of self-determination explicable in the same way as any other.

With this discussion of the Ego-consciousness, which Herbart rightly regarded as his crowning achievement, the exposition of his Psychology may aptly close. In another article, I propose to compare his method and results with those of contemporary English psychologists; noticing at the same time the work of Beneke, who was influenced both by Herbart and by English writers.

(To be continued.)

II.—ON WUNDT'S THEORY OF PSYCHIC SYNTHESIS IN VISION.

By J. H. HYSLOP.

I MIGHT have announced as my subject the theory of 'psychic synthesis' in general, because Wundt regards the perception of space universally as a synthesis of motor and sensory experience; but I cannot at present consider it in more than one aspect, and therefore confine the discussion to some very interesting and complicated results in vision. The theory may be rendered more intelligible by a few facts which prove the defects in Helmholtz's theory of 'unconscious inferences'. Wundt's explanation was advanced very evidently to correct that of Helmholtz, and it will be seen that the phenomena which most distinctly indicate the weakness of the latter suggest very clearly the propriety of the former. Helmholtz seems to have been committed to the theory of 'unconscious inferences' by the problem which retinal impressions presented to investigation. These impressions represented only a *plane* image, as in the *camera obscura*, and yet perspective seemed to be as immediate to sight as if solidity were also represented in them. Here we have, by supposition, a representative of plane dimension in the impression, analogous to touch, while there was none for solid dimension. The easiest explanation of this real or apparent anomaly, as in the case of geometrical figures representing solid objects upon a plane, and of paintings or pictures representing perspective, seemed to be a resort to association and inference, or some mental function to interpret visual signs in their relation to certain muscular and tactual adjustments so as to produce contact. It is not necessary to enter into the details of this view. We require only enough of it before the mind to appreciate the force of a few experimental facts against it, which at the same time suggest and confirm, at least to some extent, the view of Wundt. Aside from the contradiction imported in the expression 'unconscious inference,' I take Helmholtz to mean that the perception of distance and magnitude is due to a mental, although an unconscious, interpretation of certain visual signs which do not express 'a pre-established harmony' between the external and the internal worlds. Whatever of association and inference there

may be in our total conception of space, that the visual perception of it is not wholly inferential, and that there are native functions of sight to produce it can be evinced, I hope, by a few experiments, partly representing very familiar phenomena, and partly calling attention to certain peculiarities which I have hitherto not seen mentioned.

Take two stereoscopic figures, as represented in Figs. 1 and 2. It is well known that stereoscopic combination in

Fig. 1.

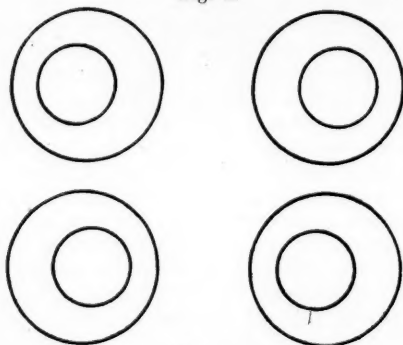


Fig. 2.

such cases produces the appearance of solidity, in this case the appearance of a frustum of a cone. But since fusion can be effected in several ways, we have a peculiar series of inversions in perspective to notice, which take place under such circumstances that their explanation by inferences of any kind seems out of the question. Now there are two general methods of effecting stereoscopic combination of such figures. These are by the unassisted eyes, and by the stereoscope; and each of them has two subordinate methods. With the unassisted eyes we may combine the circles, or their retinal images, by crossing the eyes; that is, by focusing them on some imaginary point between the nose and the sheet of paper upon which the circles stand. This is called *convergence*, and denotes the inward movement of both eyes at the same time. Again, we may effect combination by focusing the eyes upon an imaginary point beyond the sheet of paper. This I shall denominate *divergence*, for the sake of economy and contrast with the former term, although deliberately violating generally-established usage, which has limited the term to the outward movement of both eyes from the primary or parallel position. But I wish to take

into account certain neural and psychical processes which are connected with all outward movements of the eyes, and which are the opposite of those in convergence. Hence I shall speak of 'divergence' as any outward movement of the eyes from any given point, and generally from the plane in which the figures are situated for combination.

Now, if we combine the circles in Fig. 1 by convergence, the fused image will represent the frustum of a cone with the smaller base apparently nearer than the larger, each localised according to the degree of convergence required to effect combination, and as if there were two different points of fixation. But if we combine them by divergence—that is, by focusing beyond the sheet of paper—the relative position of the two bases is inverted, and the smaller seems farther off than the larger, and both localised beyond the plane of the real circles. In comparing these cases, the effects of convergence and divergence are the opposite of each other. Again, if we combine the circles in Fig. 2 by convergence, the larger base of the frustum appears nearer than the smaller, the relative position of the two bases being the reverse of that by convergence, and identical with that by divergence in Fig. 1. But the two bases together appear nearer than the plane of the real circles. On the other hand, if we effect combination by divergence, the larger base seems farther off than the smaller, the reverse of convergence. Also again, the relative position of the two bases is the reverse of that produced by divergence, and identical with that by convergence, in Fig. 1. To compare them in general, combination and localisation by convergence in Fig. 1 is the inverse of that by divergence in the same figure, the inverse of convergence in Fig. 2, and identical with that of divergence in this latter. So with combination and localisation by divergence in Fig. 1. It is the inverse of convergence in the same figure, the inverse of divergence in Fig. 2, and identical with that of convergence in this latter. Or, in a still more general way, the effects of combination by convergence and divergence in the same figure are the opposite of each other in respect to localisation and perspective, but in different figures are identical with each other. That is, convergence is always opposed to divergence in the same figures, but opposed to convergence in different figures. So divergence is opposed to convergence in the same figures, but opposed to divergence in different figures.

These comparisons and contrasts can be carried still farther. If we leave combination by the unassisted eyes

and employ the stereoscope to effect it, in Fig. 1 the relative position of the two bases will be the reverse of that by ordinary convergence, and identical with that which is effected by divergence. In Fig. 2 the same inversion takes place of the effects produced by unassisted convergence and divergence. Thus combination by the stereoscope in Fig. 1 makes the smaller base of the frustum appear the more remote of the two; in Fig. 2 the nearer of the two; the reverse of unassisted convergence, and identical with unassisted divergence in both cases. The explanation of this will be evident after further discussion and analysis. At present we are concerned only with certain facts and regular variations of phenomenal effect. Once more, we can multiply the effects and contrasts already described. If we reverse the lenses in an ordinary stereoscope, and place slides in front of them so as to cut off the images from the same sides, but to admit those from opposite sides, the effect of combination and localisation will be the reverse of that by the ordinary stereoscope, and the same as unassisted convergence. It will be clear to everyone that something more than inference is required to explain such phenomena. The effects of combination correspond too regularly with sensory and motor processes to be the result of inference alone.

To understand why motor innervation may be introduced to explain localisation at the points of fixation, and the inversion of perspective in the bases of the frustum according as we change the method of combination, we may notice an important law regulating the occurrence of these effects and conforming to the adjustments for normal vision in the perception of single objects. To ascertain this general law, we have only to remark the relation sustained by the various circles to the median vertical, and the corresponding degree of adjustment required to effect combination. Now the farther apart from each other any two geometrical figures may be, the greater must be either the convergence or the divergence to effect fusion, which is accomplished by changing the point of fixation along the median line, the fused image appearing to be translocated to this point of fixation. In normal vision the convergence has to be increased for the perception of nearer and decreased for that of remoter objects, so that as a matter of fact localisation and the degree of adjustment correspond to each other. The same correspondence will be noticed in the phenomena we have described, and why it is so is evident from the following facts. Reckoning from the centres of the circles, in order to

simplify expression, in Fig. 1 the smaller circles are farther from the median line than the larger, and hence will require a correspondingly greater degree of adjustment, whether of convergence or divergence, to effect combination. In Fig. 2 the smaller circles are nearer the median line, and require a correspondingly less degree of ocular adjustment than the larger for combination. In Fig. 1, therefore, convergence being greater to combine the smaller than the larger circles, their localisation at or near the point of fixation for their fusion can readily be explained by the innervation for that adjustment. Hence the fused image of the smaller appears nearer than that of the larger circles. On the other hand, because of their greater distance from the median line, divergence being greater for the combination of the smaller than the larger circles, the localisation of the smaller base of the frustum at a greater distance than the larger, and at the point of fixation corresponding to the proper degree of adjustment, can easily be explained by the innervation for the opposite movement of the eyes as compared with convergence, and in accord with the processes of normal vision for lesser and greater distances. We see from this why the relative effects must be inversed in Fig. 2, where the smaller circles are *nearer* the median line than the larger.

Illustrations and experiments of this kind can be varied and multiplied indefinitely, and localisation will uniformly correspond to the degree of adjustment required to produce combination. The only condition to be fulfilled in each case is that the figures to be combined shall lie in the horizontal meridian, or in the same plane parallel with it, and representing different relations to the median line. To represent in the most general way the indefinite possibilities of experiments in this connexion, we may take the circles in

Fig. 3.

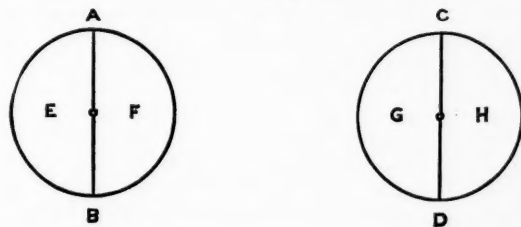


Fig. 3, with the vertical meridians AB and CD dividing them into the halves E, F, G and H. If all the figures

have either the same centre as the outside circle, or lie in the vertical meridians, solidity or relief does not appear as the result of stereoscopic combination, but all of them appear in the same plane, although the image as a whole may be translocated from its real position to the point of fixation. But if the smaller circles, lines, figures, &c., do not lie in the vertical meridian, and those in one circle are at a different distance from the median line as compared with those in the other circle, binocular relief at once assumes existence upon stereoscopic combination. If the figures or their centres lie in E and H, combination by convergence effects their translocation to a point nearer the observer than the larger circles, and when the fusion appears perfect to a point which is the point of fixation for that combination. Combination by divergence translocates them in the opposite direction to the point of fixation in the median line, farther off than that for the larger circles and corresponding to the degree of adjustment for their fusion. For all figures in F and G, and in the same horizontal plane, the perspective will be the reverse of the above for the same modes of combination. The important general principle, therefore, to be observed is, *that the localisation of stereoscopic figures corresponds exactly with the kind and degree of adjustment required to produce fusion.* Now, that this can hardly be the result of 'inference' will be manifest to anyone who has watched that process in the interpretation of ordinary experience. Inferences would hardly be under the control of innervation for ocular movements, especially as they are supposed only to be interpretations of visual signs in a plane image, and representing only the variations of light, shade and mathematical perspective in ordinary pictures. But that 'psychic synthesis' supplements the defects of such a view may not be so clear. This can be explained, however.

The 'psychic synthesis' referred to is supposed to be a combination of sensory and motor, or peripheral and conative sensations. By 'conative' we mean what Wundt calls 'innervation-sensations,' or sensations of effort. They are due to the innervation of motor apparatus, and although the very existence of such sensations, centrally derived, is denied by Prof. James and other writers, the fact of such an 'innervation' and its modifying influence upon the localising of images seem so well supported that the theory is entitled to scientific consideration. This is made very evident by its entire conformity to the principles of ordinary experience. Now, in the perception of distance, or the proper position of objects, we have to adjust the eyes in all

cases according to the distance of the object from us. The horopter, being the only line or surface of single vision, has to be transferred to a remoter position by the outward or divergent movement of the eyes in order to effect the combination of homonymous images, and to a nearer position by the inward or convergent movement in order to combine heteronymous images. Here we have the localisation of objects corresponding exactly with the point of fixation and degree of adjustment, which is a muscular process by supposition, required to effect single vision. Of course, the objection to supposing that localisation is here due to muscular and central innervation would always be that the effect might be due to the way in which different distances affected the sensorium, say in intensity of light, retinal magnitude, mathematical perspective, &c., and hence be accountable to inference or association. But the phenomena which I have described successfully eliminate all the factors that make the theory of inference a plausible one. They show figures without any real perspective and producing nothing but the effect of a plane image upon the retina, and yet the localisation of the different images corresponds exactly to the amount of muscular adjustment required to produce combination. The nearness of the smaller figures, not having the same centres as the larger, to the fovea centralis, or to corresponding points, stimulates the automatic tendency of the eyes to make those movements, convergent or divergent, which will effect real fusion, and hence the images are translocated to points which are the points of fixation for their combination. All real movements of the eyes have to be effected by muscular innervation; and in these cases, since we cannot suppose any real motion to take place without separating one or the other set of images, we are left to explain the translocation and apparent fusion of all images outside the focus of attention by supposing them the effect of central innervation for the proper motion of the eyes, which is prevented from discharging itself into a real movement by the tension that holds the eyes in a given position. Now, there are many very interesting facts which confirm such a supposition, beside those I have given, and it is quite possible that they have had much to do in deciding Wundt's mind upon the question. He certainly, and justly, lays much stress upon the following important facts, which illustrate very clearly the influence of innervation for ocular movements that do not and cannot take place. I quote two passages which will explain themselves:

"The paralytic who tries to raise his entirely helpless leg has a very clear sensation of his exertion and expenditure of power; he entirely wants, however, all those elements of motor sensations which have their source in the contractions of the muscles, in the displacement and pressure of different portions of the skin, and he obtains by this means the conception that his expenditure of effort is resultless. But there is no reason in this fact to deny that he has a sensation of that effort. Further, where that movement is not entirely prevented, the disproportion between this effort and the real motion which it would normally excite leads to very singular illusions, which exactly correspond to certain above-mentioned normal illusions, only they are much more evident to consciousness and require to be gradually corrected by experience. The subject of paresis is deceived in regard to the length of his steps, or the direction in which he moves his arm or hand, while at the same time his limb, in consequence of the intense effort to move it, seems, as it were, to be overcome by resistance. The most important of these phenomena are those in the case of the ocular muscles, because of the remarkable disturbances in localisation which have their effect here. For instance, one suffering from paresis of the right external muscle of the eye, where the muscle is still able by the utmost effort to effect a lateral movement of 20° , locates an object, which in reality is only 20° distant from the median plane, at a point as far outward as corresponds to the utmost outward movement of the normal eye, and, when asked to touch the object with his forefinger, places his finger far beyond it to the right. In all these cases it is evident that, along with motor sensations, there are others which do not depend upon the actual state of the muscular contractions, but upon the volitional impulse which produces this contraction, and which consequently must be of a central origin" (*Physiol. Psychologie*, i. 375).

And again, in speaking of the influence exercised by ocular movements upon the measuring of the visual field, he refers to the same phenomena in the following language:—

"A beautiful confirmation of this influence of motion is found in those changes which take place in the spatial localisation of visual objects in consequence of injury to particular muscles of the eye. If, for example, the external rectus, say from some injury, suddenly becomes ineffectual, there nevertheless remains a tendency to turn the eye outward occasionally; the effort applied to this, however, is without effect. We notice in such cases that the eye is able to turn in all other directions of the visual field, and perceives things in their right positions. But as soon as it endeavours to turn outward, an apparent motion of objects arises; these appear to move in the direction toward which the eye vainly makes its conative or innervation efforts. Evidently this originates from the fact that the patient believes the eye to be moving, although it is quite still. But when a normal eye, which is moved toward the right, at the same time sees the same objects, they must of course be moving with it toward the right; the injured eye, therefore, objectifies its motor tendencies, and, although standing still, objects appear to move. If the external rectus is not completely disabled, the eye can, indeed, fixate an object lying at the right, but it requires for this purpose a much greater muscular effort. Accordingly the object appears to be located farther to the right than it really is. If the patient attempts to grasp it, he grasps beyond its real position. These phenomena prove that the localisation of an object in space is determined

essentially by the *innervation-sensation* which accompanies that impulse to movement" (*Ib.* ii. 91).

In the same way he explains numerous illusions noticeable in normal vision; such as *geometrico-optical* illusions. They are said to comprehend two classes which we need not mention here, though attention may be drawn to his extended and interesting discussion of them.

The importance of these facts which Wundt reports is not to be exaggerated, and were it not that there is some confusion in his theory, which we shall consider below, they would require very careful analysis and further experiment to make them at all compatible with some other facts which we have also to present and discuss. But we are not done with facts and evidence that give his theory great advantages over perhaps all others. It will be clear to the student without further amplification how the conclusion defended in the passages taken from Wundt applies to the translocation of images in stereoscopic combination, and how extensive an application it has in binocular vision. With this in view I would present some corroborative facts, which will both exhibit the strength of the theory and point the way to the qualifications to be imposed upon it in the sequel. But before doing this I must mention briefly an important consideration to which we shall return later. It is the liability to complete misunderstanding which the terms 'innervation' and 'innervation-sensations' possess. The entire value of Wundt's theory, making space-perception a "psychic synthesis of peripheral and conative sensations," rests upon its generally assumed affiliation with the empirical and associational theories of Brown, Mill, Bain and others, who trace space-perception to *muscular and motor* phenomena. Indeed, Wundt borrowed his conception of 'psychic synthesis' (*Phys. Psych.*, ii. 28, 175) from Mill, who had already spoken of the process as a case of 'psychic chemistry,' the combination of the sensations of two or more senses, pre-eminently including the muscular sense. But Mill and his school have in mind the sensations of real and effected muscular movement. Wundt, on the other hand, when closely pushed, distinguishes between actual motor and conative or 'innervation' sensations; which latter are supposed to be neuro-psychically the same as the former, and so are connected with the *efferent* discharge, but do not really effect the movement of which they are regarded as the innervating equivalent. But in spite of this distinction, clearly announced several times, he keeps the two conceptions so nearly identical that his theory gets all the benefit

of those presumptions which are established in the conception of muscular movement. That is, the intimate connexion between muscular movements and their originating source in *efferent* processes, coupled with the fact that physiologists generally at present speak of the discharge upon the motor apparatus as 'a muscular innervation,' carries with it the impression that the perception of space, said to be due to 'innervation,' is a *muscular* phenomenon. Hence the view is welcomed by all those empiricists who are desirous of disproving all native functions in vision for perceiving the third dimension. Its nomenclature and associations affiliated it at once with the theory of the 'muscular sense'. That Wundt's position is understood, and is likely to be understood, as identifying 'innervation-sensations' with efferent discharges neuro-psychically, is clear from the way it is discussed by Dr. Ferrier in *Functions of the Brain* and by Prof. James in his memoir on "The Feeling of Effort". Assuming, therefore, at present for the sake of argument that 'innervation-sensations' are the same as *muscular*, and that they are attempted motor discharges, we may turn to some interesting phenomena which seem to confirm the theory.

In the first place, it must be remarked that the ocular movements connected with the single vision of objects at various distances are the outward and inward, or convergent and divergent, as we have defined them, those which take place in, or parallel to, the horizontal meridian, and not those which take place in the vertical meridian. Now, if the perception of space is a sensory and not a motor product, and if the tendency to fusion upon disparate points awakens muscular tension on the one hand and the perception of solidity on the other, we may ask why the latter phenomenon occurs only in the horizontal meridian, where the result coincides with the degree of muscular adjustment to effect fixation and combination. To illustrate this by experiment, take the following lines in Fig. 4, where the

Fig. 4.



lines *b* and *b'* are supposed to lie in the same planes, while *a* and *a'*, and *c* and *c'* lie each in different planes. When we try stereoscopic combination, it is evident that *a* and *a'*,

and c and c' must fall upon disparate points, but disparate as lying in different parts of the vertical meridian or parallels, and not in the horizontal meridians. At very small distances the fusion is as apparent here as in such figures as we have already described, and the effect is very evident in a kind of ocular strain, which a physiologist would at once recognise as due to the attempt of one eye to move downward and the other upward. But no translocation of images accompanies it. Notwithstanding the 'innervation' excited by the effort at fusion, the fused images of a and a' , and c and c' remain in the same plane with b and b' . It is different, as we have seen, with any differently drawn lines in the vertical meridian and parallels. It would seem, then, that the perception of solidity coincides only with the muscular efforts in the lines of the horizontal meridian. If it were due to the *sensory* effort to produce fusion, the perception of space ought to occur in Fig. 4, as well as in the cases of Figs. 1 and 2. But the limitation of the perception of perspective in stereoscopic combination to the attempt at fusion only in the horizontal meridian and its parallels makes the process correspond to, or coincide with, the muscular innervation for adjustment in that plane. The inference would be that the result is efferent instead of afferent, muscular and motor instead of sensory, since it occurs only when the reaction involves the tendency to ocular adjustment in the horizontal meridian, and for different distances in the median line. The presumption, at least, would all be in favour of the process being motor and muscular.

But there is another set of phenomena which point in the same direction. I take the normal cases first. As we have seen, we must translocate the horopter for single vision of different objects in the third dimension, converging the eyes for heteronymous, and diverging them for homonymous images. The initiation and execution of every such movement must be effected by *attention*. If we wish to bring into clear vision an object lying nearer us in the median line than the point of fixation at any given position in that line we *turn the attention* to it. Immediately, and, as it were, automatically, the proper convergent movement of the eyes sets up, and will be effected unless a strong counteracting influence of the will occur to inhibit it. But where no such inhibition is voluntarily introduced, the change of attention from one point of fixation to another, or to some object lying in a nearer position, spontaneously contracts the internal or nasal, and relaxes the external or

temporal muscles of the eyes, in order to converge them for fusion in the fovea. The same process, but the reverse movement, takes place for the fixation and fusion of homonymous images. Now, we have here a very intimate connexion between *attention* and the muscular and motor innervation of the ocular apparatus for adjustment. This connexion will be either reflex or voluntary. If it be reflex, muscular and motor phenomena are necessary factors in the total product, and render the supposition of 'psychic synthesis' quite reasonable. If, again, we consider it voluntary—that is, due to an act of will which sets reflex centres into operation—two prevalent doctrines may be put together to see what conclusion will follow. In the first place, Wundt, and, for that matter, all psychologists that we know of, maintain that an act of attention, or change of attention, involves an *act of will*. In the second place, Wundt and many psychologists, some who would accept his space-theory and some who would reject it, admit that the will and all volitional processes, even when terminating only in a mental choice, are very closely connected with the motor apparatus and more or less affect it in every case of the will's acting. Now, if attention involves an act of the will, it must liberate certain motor forces and check others when a change of fixation is effected, and thus involve the translocation of images according to the kind and degree of 'innervation' which it stimulates, thus connecting peripheral with conative sensations through the influence of the will.

That attention involves, really or apparently, an automatic motor tendency, is evident from the following experiment, which begins the illustrations from stereoscopic combination in this connexion, and is not included in the so-called normal cases above. Take two circles, each about one and a half inches in diameter, and draw two very small circles near the outer termini of the diameters, so that the figure will resemble Fig. 1 in form, but represent the inner circles at a relatively greater distance from the median line than in Fig. 1. This is to take a case where the fusion of the smaller will not be even apparently simultaneous with that of the larger, but where the effort at fusion is very distinct to consciousness in the partial translocation of the images. When we combine them either by convergence or divergence, the smaller circles will not appear to fuse while the attention is fixed upon the centre of the larger, marked by a small dot, if we choose; but if we turn the attention to the smaller circles, and exercise no inhibitory influence

upon ocular movements, there will be no means of preventing the actual fusion of the smaller circles, attention relaxing the muscular 'innervation' for that adjustment which had combined the larger circles, and stimulating that which effects the fusion of the smaller. The larger now appear to be separated. Every other change of attention will produce a corresponding effect, showing the way in which motor and sensory phenomena seem to be necessarily complicated.

A still more interesting experiment of my own indicates the same principles at work. How far the same result can be reached by others I will not undertake to affirm. It is so confirmatory of the position above taken, and coincides so perfectly with what might be expected from what we know of the normal changes of attention, that it is worthy of some emphasis and comment. Take two circles, as in Fig. 5, and combine them by convergence. The well-

Fig. 5.



known results are: (1) that three circles will appear in the field of vision, the centre one the result of fusion; (2) that the centre circle will appear nearer the observer than the sheet of paper upon which the two are drawn; and (3) that the apparent *locus* of the central circle nearer the observer can be proved or tested by at once placing a pencil at the point where the circle appears, and this point turns out to be the point of fixation for combination, since only at this position will the pencil appear single. At any other point outside the horopter line passing through this point, its images become homonymous or heteronymous according to their place within or beyond that line. In my own case I also always notice that the central circle seems both nearer and smaller than the exterior circles. If we combine by divergence, or focusing beyond the sheet of paper, the localisation and magnitude of the central circle is the inverse of those in convergence. These I do not lay any stress upon, although they coincide exactly with the kind and degree of adjustment existing at the time.

But take now the instance of combination by convergence.

Here I have said that a pencil can be at once put at the apparent position of the central circle, so that the pencil and the circle will appear in the same plane. Instead of a pencil, or rod of any great thickness, take a piece of wire, a knife-blade, or a needle, so that double images of it will be more readily visible. The wire will appear single at the point of fixation. But move it beyond, and it appears double and at a greater distance than the circle. This, of course, is as it should be: the images become homonymous. That they are homonymous can be proved by suddenly opening and closing one of the eyes, the ordinary test. But now the anomaly appears. If we keep the convergence of the eyes perfectly fixed for the combination of the two circles to form the central one, and turn the *attention* to the two homonymous images of the wire, and without allowing convergence to change so as to combine those images, we shall find that they will instantaneously spring into the *position of heteronymous* images, without in the least approaching each other. That is, they appear nearer the observer than the central circle, beyond which they had seemed the moment before. That the images are really *homonymous* can be proved in the ordinary way, by closing one eye and observing that it is the image on the same side that vanishes. At certain distances from the point of fixation, rivalry often takes place between the homonymous and the heteronymous positions, and the two images will alternately seem nearer and farther off than the central circle.

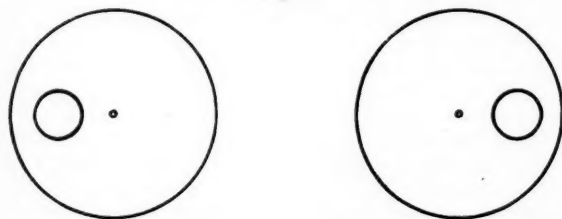
A beautiful way of determining the same result is to place the wire upon the sheet of paper, and coinciding with any point in the circumference of one of the circles, but held vertically, while convergent combination is effected. If the attention is fixed strongly upon the two images of the wire they will be seen to coincide with the plane of the paper, and the central circle will appear in the same plane as the two exterior circles. This may vary, however, with rivalry, as experience may show. But generally the two images of the wire appear to coincide with the plane of the central and one of the outer circles. Now, if we begin to move the wire toward the real point of fixation nearer ourselves, without altering this adjustment, and without changing the attention, the two images of the wire will appear nearer than the central circle, and also to approach us until they reach a certain point, where the attention is nearly the same as that for the fusion of the circles, and here they instantaneously assume the homonymous position, having appeared heteronymously situated until this point was reached. The sudden and

anomalous character of the phenomenon impresses consciousness at the time with a marked feeling of surprise. The movement of the wire can be reversed, and the same phenomena will occur but in the inverse order. If, again, we draw the circles upon a piece of glass in order to combine them by divergence, or fixation beyond the plane in which they are situated, we shall observe similar effects as before, only the change this time is from heteronymous images into apparently homonymous images. If, after combining the circles by fixating beyond them, we hold the wire nearer the plate of glass than the point of fixation for fusion, its images are double and heteronymous, as can be tested in the ordinary way. Now, by turning the attention to these images without allowing the ocular adjustment to change, they will as suddenly as before assume the *homonymous* position: that is, appear beyond the central and fused circle. Of course they are only relatively homonymous, as the usual test will show, the localisation of the central circle being transferred from the point of fixation to the plane of the original circles, or nearer it than the focus of vision. Caution must be observed in this part of the experiment to see that the wire is really within the point of fixation, because the very attention that is employed to see that it is not in the same plane as the fused circle translocates this latter, and we may not easily get the effect. The wire may appear beyond it all the time and thus seem relatively or absolutely homonymous when its images are really heteronymous. But if the proper tests are applied the effect as described is very readily obtained. Further, it is an important confirmation of all this, that the really heteronymous images of convergence, when the wire is held nearer the observer than the point of fixation, and the really homonymous images of divergence, when the wire is held beyond the point of fixation, are never translocated into the apparently and relatively opposite position. Now for the explanation.

At first sight, the phenomena appear to be an anomaly in localisation, and to confound almost any theory endeavouring to account for it. But if we revert to the influence of attention in all sensory processes, we may discover a cause for the effects just described. Thus, it is known that we may so absorb our attention upon an object as to be unconscious of a severe pain in the tactual sense. The law of Kant and Hamilton, that "sensation and perception are in an inverse ratio to each other," is the most general statement of this relation between the direct and the indirect field of consciousness. In vision, we may be so occupied

with a particular object as to disregard the presence or approach of another. We may even lose entire sight of all objects except the one in which we are interested. Further, it is a universal fact, as above intimated, that attention directed to any object in the field of view, and when not inhibited by voluntary restraint, at once and automatically sets the eyes into the proper movement or movements for adjustment to produce single vision. At the same time the visual tension of the eyes is relaxed for the object from which the attention is turned. Now turn to the experiments and apply the results of these facts. When we keep the adjustment of the eyes for combination constant, but direct the attention to the homonymous images of convergence and the heteronymous images of divergence, the tension, or 'innervation' for binocular localisation is relaxed by the change, and we are left to monocular influences for the localisation of the images of the wire as well as the several circles, and they appear accordingly in the proper space-relations for monocular vision. We need not carry this into its details and special tests to show that monocular triumphs over binocular vision. It suffices for present purposes to observe that attention controls the 'innervation' for localisation, no matter how we choose to regard its relation to the motor and muscular system. But when we assume, as stated, that attention involves will and that the will is closely connected with the motor apparatus, these phenomena point very significantly to the conclusion drawn in both of the quotations from Wundt. This intimate connexion between attention and motor processes may be illustrated by an experiment which I have often tried, and which is only another form of those already just

Fig. 6.



described. Take two circles, as in Fig. 6, and draw the smaller circles so that they are beyond the limits of combination simultaneously with that of the larger; also place

dots at the centres of the larger circles. Now, if we combine by convergence in ordinary circumstances, there will be a tendency for the smaller circles to combine, and, although their fusion cannot be actually effected without breaking that of the larger, they appear localised nearer than the plane of the larger circle. But after practice has made the experimenter skilful in managing his eyes, if the attention is intensely fixed upon the fusion of the larger circles, the smaller ones will suddenly recede into a position apparently beyond the plane of the larger, showing the prevalence of monocular principles again. On the other hand, if we combine by fixating beyond the paper, the concentration of attention upon the larger circles leaves the smaller to appear nearer the observer, contrary to the rule we have laid down about their relation to the median line in comparison with the others. But now, if we concentrate the attention upon the smaller circles, they spring at once into a position apparently beyond the larger, to accord with the kind of adjustment required for their combination. Attention here again translocates the images of the two circles. But the most important phenomenon to be noticed in both cases, namely, combination by convergence and divergence, is the tendency of the two smaller circles to approach or recede from each other laterally according as binocular 'innervation' is induced or relaxed. In the first case, that of combination by convergence, when attention to the smaller circles, without changing the adjustment, translocates them to positions apparently nearer than the larger circles, they seem nearer each other laterally than when the concentration of attention upon the fusion of the larger circles translocates them to the monocular position beyond the latter. They are distinctly observed to move apart from each other in such cases, and to approach as they are retranslocated back to the binocular position. In the case of combination by divergence, as defined, the same lateral movements of the smaller circles are observed to accompany the changes of localisation. Now, we have here quite indisputable evidence of an intimate, if not an automatic and necessary connexion between *attention* and the *motor or muscular apparatus*. Attention, will and motor processes seem to be correlates and necessary concomitants of each other. Localisation is shown to vary with them, while the position of retinal images is supposed to remain unchanged, and hence the natural inference is that the conception of space so involved is the product of this 'innervation' which is denominated 'central and motor,' and

is not regarded as *sensory*. The peripheral impression remaining the same, the fact that localisation in the third dimension coincides and varies with the 'innervation,' which is the psychical equivalent of so much muscular and motor activity, gives much probability to the theory of 'psychic synthesis,' as will be evident to those who have followed the course of speculation. The facts which have been adduced cover a very large and comprehensive field, and have importance in proportion to that and not to the number presented. Their force will be left to the appreciation of the reader without further comment.

We proceed next to criticism and to the objections against this theory. But before beginning these it is well to remark that the above facts, which are made to do service for the theory of Wundt, will also be made the source of an analysis of the problem which shows that the theory of 'psychic synthesis' is not clear and accurate in its conception of the case, and if consistently carried out must be reduced to a *sensory*, not a *motor* process, to an *afferent*, not an *efferent* class of sensations. The criticism of the theory will be conducted in two different ways. In the first we shall state the objections to it which may be made upon the supposition that these 'innervation-feelings' of Wundt's are identical with those accompanying a motor discharge and its muscular contraction, and that the 'innervation'-process is identical with what has all along been spoken of by physiologists as 'muscular innervation'. In the second we shall point out an analysis of the problem, as the result of the first class of objections, and as actually stated by Wundt, which very greatly compromises his theory, and which weakens its integrity to the extent that it can present no antithesis and no contradiction to those who, like Dr. Ferrier and Prof. James, limit space-perception to sensory processes.

The theory has lately been criticised by Prof. James in *MIND*, and in his memoir "On the Feeling of Effort" (1880).¹ Some valuable facts against it are presented in the phenomena of "joint-pressure" (*MIND* xii. 197). But I shall be content with the reference to this criticism, and shall confine myself to objections which I have not seen noticed. This will save space and time.

The first objection to Wundt's view, at least as it is

¹ "Anniversary Memoir of the Boston Society of Natural History for 1880" (cp. *MIND* v. 582).

usually conceived by himself as well as others, has only *ad hominem* force. Assuming that this 'innervation,' which gives rise to the sensations of that name, is identical with muscular and motor innervation in its nature, we may present something of a dilemma, or at least an alternative between his theory of space-perception and his theory of combination upon disparate points. The two will not harmonise well, according the ordinary facts of vision on the one hand and the least expenditure of energy on the other. For instance, adjustment is necessary only to accommodate visual reactions to the law of corresponding points. To adjust the eyes for fusion upon these points muscular innervation is required, and this is stimulated by directing attention to homonymous and heteronymous images, which are such for the very reason that fusion does not exist upon disparate points, at least at any distance apart. It is the necessity of bringing them to corresponding points that requires the co-operation of muscular and motor processes. Now, Wundt holds with Wheatstone that fusion can take place upon disparate points. If this be the case, and if solidity be traceable to this, as Wheatstone supposed, the 'innervation,' which is the effort to bring them to corresponding points, and the equivalent of muscular energy, is an entirely supererogatory process. Yet it is as noticeable in these cases as in any other. In all ordinary cases of homonymous and heteronymous images, muscular and motor adjustment are mediated by 'innervation' for the express purpose of conforming to the law mentioned. But in fusion upon disparate points we virtually assume that the same result is attainable without necessitating a shift of the images to corresponding points. This would make the motor innervation a disturbing instead of a normal factor. Hence I urge that one or the other of the two views be abandoned. The theory of fusion upon disparate points must be sacrificed to 'psychic synthesis,' or *vice versa*.

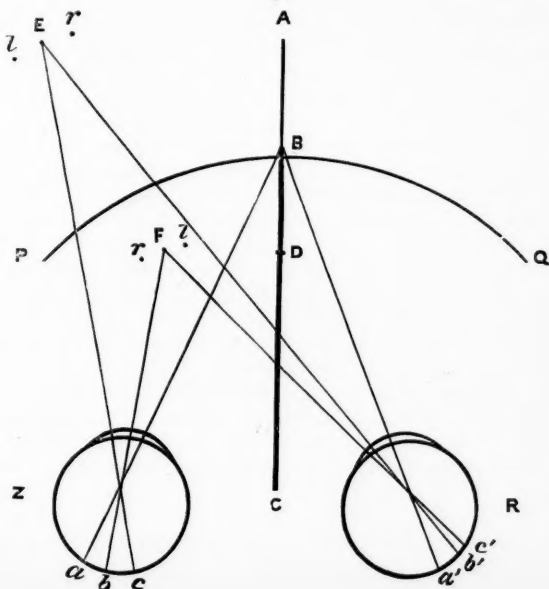
The second objection to the theory is based upon the anomalous and complicated character of the muscular processes and 'innervation' which it assumes in connexion with the various ocular movements. In this we may eliminate from consideration the *oblique* muscles, and discuss only those which mediate the vertical and the horizontal movements of the eyes. In the experiment presented by Fig. 4, we learned that the attempt to effect fusion upon disparate points lying in the vertical meridian, or lines parallel to it, although acting upon the superior and inferior muscles in much the same way as when the impressions

stimulated horizontal movement, never produces a translocation of images in the third dimension. We found this effect limited to the internal and external muscles. In such a case we are obliged to suppose a radical and generic difference between the two kinds of 'innervation,' if Wundt's theory is to hold together. In one, the muscular 'innervation' and contraction produces no perception of solidity; in the other, although they effect the same kind of mechanical motion, the perception of the third dimension is their concomitant. It cannot be the same kind of 'innervation' with the internal and external as with the superior and inferior muscles, because there is a distinct increment in the total effect. But to suppose this distinct kind of 'innervation' is only to exclude the ordinary muscular effort and sensations from the problem, by which the theory derived all its probability as an empirical account of the matter, and sets up a nervous function which is only another name for the process denominated 'Intuition' (*Anschauung*) by older speculators. Besides, it implies certain constitutional differences, which amount to a very singular anomaly between the processes which mediate the vertical and the horizontal movements of the eyes; so that one set of muscles must be endowed with very different functions, as motor apparatus, compared with the others. But the anomaly becomes much more incredible when we compare the two different forms of horizontal movements. These are the *parallel* and *convergent* movements, omitting the parallel movements in the vertical meridian. Now, the convergent movements are mediated by the internal recti muscles acting simultaneously and symmetrically; we might speak of divergent movements under a similar control from the external recti muscles, but this can be omitted, although it is assumed, in our discussion. The parallel movements are mediated by the simultaneous and symmetrical contraction of an external muscle in one eye and the internal muscle of the other, while there is a corresponding relaxation of the complementary recti muscles. That is, we have the parallel and convergent movements effected by the same muscles, the same mechanical contractions, and, presumably, by the same kind of muscular 'innervation,' the difference between the movements being determined only by the variations in the points of discharge and application. Now, on this supposition, when a parallel movement of 20°, say to the left, is made, the internal rectus of the right eye is 'innervated' to the same extent and in the same way as in convergence for the same number of degrees. But trans-

location of images in the third dimension accompanies only the convergent movements, while parietic disturbance occasions translocation in plane dimension with parallel movements. This last will not occur in normal vision. But the failure of 'innervation' upon a rectus muscle in parallel movements to produce the same effect as its 'innervation' to the same extent and of the same character in convergent movements, would require us to set up two distinct kinds of muscular innervation for the same muscles—one which produces spatial distinctions and one which does not. This, again, is more preposterous than the former case, and instead of relegating space-perceptions, as the author wishes it to do, to ordinary muscular effort, only sets up a specific function for this process, as the nativists would desire. Too many muscular processes are here involved to give the theory any such simplicity as it intends to claim. Such complications, also, of different kinds of 'innervation' violate all the analogies of physiology.

The third objection is based upon certain anomalous consequences of the theory involved in the localisation of homonymous and heteronymous images. This can be shown by Fig. 7. ABC represents the median line, B the

Fig. 7.

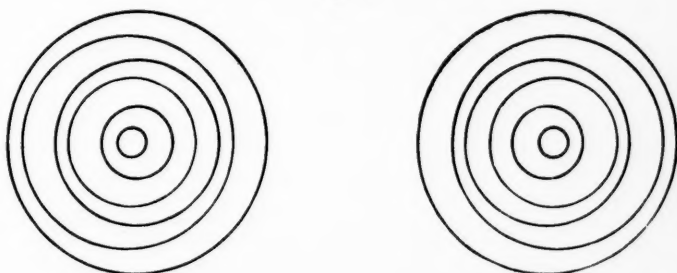


point of fixation, PBQ the horopter, E and F the points from which the impressions originate for the homonymous images l and r , and the heteronymous images r and l , marked by dots for their position, a and a' represent the foveæ of the two eyes receiving the images of the object from the point of fixation at B, b and c' the points upon which the images of F fall, and c and b' the points upon which the images of E fall. Now, according to the accepted laws of vision, E and F can be seen single only in the horopter. Hence, a convergent movement will be required to bring the heteronymous images of F into the horopter, and an opposite movement to bring the homonymous images of E into it. Since their localisation within and without the horopter, while the fixation is at B, coincides with the kind of adjustment for combination, and since the theory of 'psychic synthesis' makes this localisation depend upon the 'innervation' corresponding to that adjustment, there must be two opposite states of 'innervation' acting upon the same muscles at the same time, one to produce the convergent and the other the divergent movement of the eyes. One is a tendency to contract the internal and to relax the external muscles; the other, to contract the external and to relax the internal muscles. This is all the more singular when we observe that both the homonymous and the heteronymous images fall upon *corresponding* halves of the retina. If the objects were situated in the median plane, or line, as at A and D, such an opposition between the two tendencies might appear to present less difficulty. For the homonymous images of A would be intrafoveal, and the heteronymous images of D extrafoveal; in both cases they would fall upon *non-corresponding* halves of the retina, and might very naturally stimulate automatic and opposite efforts toward the fovea for fusion. But it is not so with the images of E and F. They fall upon corresponding halves, and it is not easy to see how, upon motor principles, those at b and c' should stimulate convergent 'innervation,' and those at c and b' the opposite tendency. But granting that this is no more explicable by the *sensory* than the *motor* theory, it is absolutely anomalous to suppose, as the theory of 'psychic synthesis' must suppose, that two antagonistic states of muscular innervation can exist at the same time (for Dove's experiment shows that they are instantaneous and simultaneous, and not successive), without contravening each other's influence for localisation. It is a contradiction of the law of impenetrability. Of course this opposition has to be admitted as a fact upon any theory; but what I am

intent upon intimating here is, that it cannot be muscular. Two opposite muscular innervations either result in *zero* for effect, or produce only one, which is the difference between them and their intensities. The physiology of the motor system does not show that opposite muscular innervations, contraction and relaxation at the same time and upon the same muscles, produce the effects of both of them. Hence the localisation of homonymous and heteronymous images generally stands in the way of this theory, because it is forced to assume such anomalous muscular processes, or to make such a distinction between different kinds of 'innervation' as completely removes the antithesis between this and the sensory theory of Prof. James.

The complications of these simultaneous and opposite states of 'innervation' can be very beautifully illustrated by a series of concentric circles, where succeeding sets are differently related to the median line from the preceding sets. This is shown by Fig. 8. In this combination,

Fig. 8.



convergence or divergence (as we have defined this) produces as many differences of position in the third dimension as there are differences of relation to the median line between successive sets of circles, and we must have, according to the theory, as many corresponding 'innervation-sensations' representing as many opposite efforts at muscular adjustment. Such experiments could be multiplied indefinitely, and only increase the improbability that opposite states of 'innervation,' as here assumed, are anything like the ordinary motor and muscular processes.

A fourth objection comes from the fact that monocular vision may overcome binocular influences without removing localisation entirely, as might be required of the case if it were due only to binocular efforts at adjustment—which

must be muscular and motor. The ultimate dependence of the problem upon monocular phenomena is demonstrated by the projection and localisation of homonymous and heteronymous images; by those experiments which show the supremacy of monocular influences, such as the fusion of images reflected from figures lying at an inclination, say of 45° , to the median plane; and by the monocular inversion of perspective, as in cases of geometrical outlines representing solid objects. I see no reason in monocular vision to make the process a muscular one, or in any way allied to it. Moreover, in the very experiments, represented in Figs. 5 and 6, to confirm the Wundtian hypothesis, there is a fundamental fact which cannot be reconciled with the supposition of muscular and motor innervation. It is, as shown, that localisation varied with the *changes of attention*, while the *muscular innervation and contraction for adjustment remain constant*. We saw the point of fixation and fusion to remain unchanged, so that there could be no changes of muscular effort, and yet the changes of attention affected localisation, or the relative localisation in the third dimension only, of images in the visual field, precisely in the ratio of such effort. But it could not be any actual discharge upon the motor apparatus, and hence has to be distinguished from it as a *sui generis* neural or psychical process.

This last fact brings us to the second part of our criticism, where we are to more distinctly recognise the author's real conception of 'innervation,' and his actual separation of it from muscular processes; the confusion of the two with each other being the source of most objections to 'psychic synthesis'. We have already indicated where the strength of the theory lies; namely, in its ability to avail itself of the conceptions and associations connected with muscular and motor phenomena, which involve the consciousness of space. The term 'innervation,' although at one time a general expression for any nervous activity that would produce a state of consciousness, came to represent, by the general consent of physiologists, the nervous discharge upon the muscular and motor apparatus. Now, Wundt's theory of space-perception was an effort to resolve that perception into data containing none of it (*Phys. Psych.*, ii. 28). He had, then, only to abstract muscular and motor sensations *per se*, and retain the 'innervation' supposed to mediate them, in order to satisfy the requirements of the case. If actual movements and the sensation of movement, which contain the conception of space, did not take place, but nevertheless the translocation of images did occur in the

precise ratio of the effort to localise them or combine them, there seemed every probability that the effect was due to the 'innervation,' which did not contain special data like sensations of motion, and which was only an inhibited discharge. Besides, its affinity with muscular innervation appeared in the fact that he called it 'central,' and it was generally agreed that motor processes were central. But in spite of this, when pushed to the wall, even in the crucial experiments upon which he relies for demonstration, he draws a clear line of distinction between the 'innervation' for muscular contraction and the 'innervation' which influences sensation and forms a part of the 'psychic synthesis'. At the close of the first passage quoted from him, he is forced to recognise that these 'innervation-sensations' do not depend upon the actual contraction of the muscles; for the latter remain in a constant and unchanged condition, while the former are variable. But he identifies them with a 'volitional impulse' (*Willensimpuls*), and, because this process is generally admitted to be central and closely related to the motor system, he can thus connect his process with muscular innervation. His own distinction and admission, however, are fatal to this. All sensations of effort that may be rightly called such make themselves evident upon the actual exertion of muscular innervation, and here we have the fact virtually admitted, for the 'innervation,' which effects translocation of images, is so distinct from the actual force applied to contraction of the muscles as to be held a mere 'volitional impulse' which does not necessarily instigate motor activity, and can never be more than the transition from purely sensory to motor processes, that is, never more than muscular innervation *in limine*. That it cannot be identical with innervation proper is proved by the fact that muscular innervation and contraction may remain constant and unconscious except for the peripheral sensations accompanying them, while this 'central innervation' varies. That it does not necessitate motor discharge is proved by the same fact, illustrated in the experiments of Figs. 5 and 6, where all the changes of attention and 'volitional impulse' there recorded left the condition of the muscles in this position for adjustment undisturbed. The apparent translocation of the homonymous images of the wire to the heteronymous position was due to the real translocation of the fused circle to the plane of the sheet of paper, or the point of monocular localisation, while the muscular adjustment and innervation of the eyes remained absolutely fixed and unchanged. Wundt himself, as we

have seen, is finally compelled to take this fact into account, and only escapes the abandonment of his theory by retaining the *central* origin of his 'innervation' for localisation, in contrast with the assumed *peripheral* origin of other sensations than the conative, while he separates the muscular and motor processes from the 'volitional impulse,' which is unquestionably in close relation to them and can at any moment discharge itself into executive effort. But the fact that this 'innervation' is central, and that it has close affinities with motor phenomena, if only in the form of attention and localisation in precise conformity to motor effects that might take place, does no more than prove a pre-established harmony between the several functions of the organism, and not the identity of one with another.

This view of the case can be enforced from the other side of the theory; namely, the contrast between *central* and *peripheral* sensations. We have already remarked that the theory of 'psychic synthesis' has gained much of its support and allegiance from its use of this distinction which has everywhere been supposed to coincide with that between sensory and motor processes, and could thus avail itself of analogies in supposed muscular experience to remove space-perception from the sphere of sensory phenomena alone. But it has entirely escaped the attention of its advocates that the supposition of 'innervation-sensations,' distinct from the sensation of actual muscular effort on the one hand, and presumably from the ordinary sensory states on the other, is either a contradiction, or dispenses with the distinction between central and peripheral altogether in reference to states of consciousness. For, it ought to be seen that what is gained by calling them 'central' is lost by calling them 'sensations'. The distinction between sensory and motor functions is entirely abandoned if both have sensorial qualities, and unless we apply 'sensation,' with Lewes, to denote the unconscious nervous process that begins at the periphery on the occasion of a stimulus, peripheral and central sensations may be identical. As a matter of fact, I believe that it can be made out that the sensations which Wundt characterises as 'peripheral,' are quite as 'central' in their origin as his so-called 'innervation-sensations'. For example, take the case of amputated limbs, which are distinctly felt for years afterwards; or the better-known fact, that a sensation does not occur at the same instant as contact with the object, but awaits communication with the nervous centres. If the connexion with the centre is severed, the peripheral stimulus

is not felt, although stimulus of the unsevered portion of the nerve may create that sensation, and its localisation be assigned to the *periphery*. Wundt ought to have seen here the consequences of his doctrine of 'local signs,' which he adopts in its essential features from Lotze. This makes localisation not a matter of peripheral functions alone, but a central process which takes into account the various shades of quality and intensity in sensations. The projection of the sensations into a lost limb seems to confirm this. But I will not urge the point. Further, the fact that every form of consciousness seems to involve attention, and attention to involve will, by general consent, would require us to assign them all the same origin, either central or peripheral. Wundt's confusion grows out of the ambiguity that pervades the use of the term 'sensation': now used as identical with *impression*, which is peripheral and is generally meant to include the unconscious nervous activity which mediates its communication with the central system; and now used as a *conscious state*, the mind's reaction against the impression, which so far as it is a conscious phenomenon is an act of attention, more or less, and so connected with will, which by supposition is a central function. This development of the case will make the so-called peripheral sensations central, and the theory will lose half its value in having to abandon its distinction between the two. All states of consciousness have an integrity and a unity of origin which abstract and arbitrary distinctions between central and peripheral genesis only seek to conceal. Hence, with every reason to ascribe a similar origin to all sensations, and the exclusion of 'innervation-sensations' from those of actual muscular contraction and the neural process mediating this act, we may safely dismiss the right of 'psychic synthesis' either to ally itself with the muscular theories which serve some empiricists so well against nativism in sight on the one hand and the *ideal* conception of space on the other, or to consider the synthetic process of space-perception as in any respect different from all other syntheses of consciousness.

No injustice is here intended against Wundt's theory. It has, to my mind, the merit of having better conceived the facts of space-perception than any other view. It is quite certain that Wundt has very successfully hit upon a process to account for localisation (if not for the more general conception of space), which enables us to distinguish very clearly between the function of colour-perception on the one hand and 'unconscious inference' on the other, although not

excluding the operation of interpretative influences in the total of our experience. Besides, the position forces upon psychology the recognition of a complete continuity between all the processes that begin with sensational consciousness and terminate in the realisation of some executive result. This continuity, however, is rather one of nicely adapted connexions than of psychologically similar products. It is for this reason that I demur to his identification of his 'central innervation' with muscular and motor innervation undischarged. Such identity cannot be maintained, and it is by Wundt himself upon special emergencies virtually abandoned. The single fact that attention, and even desire and choice, may be effected without any necessary change in muscular tension proves a difference between these so-called 'central' states and motor effects. It is true that the relation is very close, and it may have an importance which the old mysterious chasm between sensory and motor phenomena concealed. The theory does much to bridge this chasm. But, in order to render this service, I do not see that it was at all necessary to violate the unity of consciousness in the sensory sphere by a generic distinction between peripheral and central sensations, merely to satisfy a desire for analysing the conception of space into non-spatial data; or to strain the conception of 'innervation' so that upon occasion it might do the service of motor processes, and yet be as distinct from them as a possibility is from a reality.

III.—DEFINITION AND DEMARCATION OF THE SUBJECT-SCIENCES.

By Professor A. BAIN.

THE process of defining is here discussed, not in its fullest compass, but with the limited object of assisting in demarcation. Given the entire body of the Subject-sciences, it is desirable to ascertain the best mode of distributing the materials, so as to be able to say of any fact or doctrine that its suitable place is in one rather than in another.

It may be asked, at the outset, what is the criterion of a suitable place. The only answer is kindred or similarity, of which we must judge as we best can. A science is an aggregate of knowledge, whose particular items are more closely related to one another, in the way of kinship, than to any other collective mass of particulars. The propositions of Geometry have such preferential kindred among themselves; the facts of Chemistry have the same; so likewise the facts of Physiology, of Geology, of Politics. All men of science would rebel against a mixture of geometrical propositions, chemical laws, physiological particulars and political doctrines. To interpolate between the first and the second proposition of Euclid the properties of oxygen, and between the fifth and the sixth the three powers of the British Constitution, might not involve a single error of statement; but it would be an outrage on the decencies and conventions of science.

The reason is obvious enough, but yet is worthy of being explicitly rendered. We seldom encounter such gross misplacements as those mentioned, but we are liable to the practice in more insidious, and therefore more hurtful, ways. Now the chief benefit of the homogeneous grouping of our knowledge may be comprehensively described as intellectual ease, or, in other words, the economy of the powers of the understanding. Whether as simply an aid to memory, as a facility in comprehending proof, or for the higher end of invention, it is eminently profitable to view together related topics, and to exclude from the attention all that belongs to different regions of thought. This is one law of expository style. A good paragraph is said to possess unity; that is, it has a definite theme, and is restricted to the expansion and illustration of that theme. As already remarked, the

consequence of a breach of unity is not necessarily error; every affirmation may be perfectly correct in itself; yet the jumble of incongruous statements embarrasses the intellectual workings, and does as much harm in its own way as positive misstatements. A resort to such confusion is one of the devices of sophistry.

That the ideally best distribution of the matters belonging to the Subject-sciences is not free from difficulty is admitted at the outset, and will be illustrated in the sequel. Nevertheless, any failures that can be alleged may not always be owing to intrinsic difficulty, but to a purely extraneous and accidental cause—namely, the excessive ambition of the cultivators of the individual branches, which is a motive to overstretch their several boundaries, by way of aggrandising their importance. For this weakness, however, it may be said there is no remedy but the moral regeneration of the scientists themselves. I answer there is a remedy, or rather there is a situation where the aggrandising tendency is neutralised. Among the distinctive merits of Aristotle, I would assign as one in particular, that he does not overstep the legitimate boundaries of the several branches of knowledge treated of by him; these branches representing nearly all the topics that concern the present theme. Of course, I make allowances for the imperfection of his grasp at that early stage. But take his *Organon*, and you will not find anything that a logician of the present day would consider as irrelevant, still less as belonging in strictness to a totally different department. My explanation does not rest either on his extraordinary power of discrimination, or on his self-restraint in not pushing a subject beyond its proper bounds. It is quite another consideration. His comprehensive intellect had sketched nearly the whole round of the sciences of mind—Psychology, Logic, Ethics, Metaphysics; not to mention Politics, Rhetoric and Poetics, which we may for our present purpose omit, although undoubtedly their foundations are in the subject sphere of thought. Now, if a writer has actually composed systematic and exhaustive treatises of Psychology, Logic, Ethics and Metaphysics, he is under no temptation to aggrandise one at the expense of the others. He is in a position of perfect impartiality. His judgment of the relationship and the proper localisation of any given proposition is unbiassed by preferences; for he need have no preferences. If he thinks a question more nearly allied to Psychology than to Logic, he assigns it to Psychology, he being master of that branch too. I doubt if

any philosopher whose one subject was Logic would have been equally pure in his handling. So, in formulating a department of Metaphysics, Aristotle was delivered from a still greater temptation to mix up heterogeneous topics in one treatise.

The position of Aristotle is not often reproduced in later times. The university teachers of Europe, during several centuries, reflected Aristotle's breadth, and would have the same absence of temptation to extend one branch at the expense of another. A few of our recent thinkers, as Kant and Hegel, have composed original works on most of his topics, but we cannot quote them as exact parallels on the point before us.

My plan of treatment is the following. Selecting the four leading departments of subjective knowledge—Psychology, Logic, Ethics, Philosophy (Ontology and Metaphysics being so far synonymous)—I will discuss their domains severally by dwelling on the points of contact between each one and every other. I may say in advance that the end I have in view is to isolate the questions most suitable to be included in the designation 'Philosophy,' by withholding from it every topic that can be claimed, with good reason, by any one of the three others. I therefore take them in couples thus: (1) Psychology—Logic; (2) Psychology—Ethics; (3) Psychology—Philosophy; (4) Logic—Philosophy. There are still two other couplings, Logic—Ethics, Philosophy—Ethics; but these we can dispense with. In fact, the gist of the inquiry is the best possible distribution of matter in the three fields—Psychology, Logic, Philosophy.

Couple first, then, is Psychology—Logic.

The province of Psychology is on the whole sufficiently well marked out, being the properties and laws of the human mind treated scientifically. In its lower region of Sense, it abuts on Physiology, and the line of demarcation of the two is an affair of some delicacy; but that does not concern our present purpose, which has to do with the logical border. I propose, therefore, to inquire with some degree of minuteness into the province of Logic itself.

Now, whatever things may have been regarded, at one time or other, as coming within the scope of Logic, we cannot blink the fact that Logic had its apparent origin in the endeavour to rectify mistakes connected with the pursuit of truth. Aristotle, we may believe, would not have perfected the syllogistic machinery, with all its belongings, had he not designed to obviate the inadvertencies habitual to the

ordinary mind, especially in complicated reasonings. I may presume that the one thing agreed upon, as properly included in Logic, is the Aristotelian syllogism, or something equivalent to it. Whether a scheme of Inductive Logic should be appended is a matter of dispute in modern times, but could not have been so if the post-Aristotelian logicians had retained the entire *Topica*, as an integral part of Logic. Grote has conclusively pointed out that Aristotle fully conceived, although he very inadequately developed, the inclusion of Inductive Method in the logical scheme.

Assuming, then, that the primary motive of Logic was to correct human weakness in the matter of attaining truth, this must still be conceived as its central idea, unless, in the course of development, something has happened to alter men's views on the whole subject. It was, of course, possible that Aristotle may have been mistaken, either in regarding such a construction as wanted, or, supposing it wanted, as efficient for the end: on both suppositions the whole scheme was an abortion. Advocates of this extreme opinion have appeared from time to time. Another view consists in disregarding the practical applications made of the logical machinery by Aristotle himself, and in evolving from it aids to the higher speculation, as in the use made of the Categories by Kant and of the Syllogistic apparatus by Hegel. Truth and falsehood are, no doubt, still in view, but not the correction of the kind of mistakes indicated under the Aristotelian Fallacies.

Taking the practical-utility view of Logic, there is one thing worthy of being made prominent, namely, that the machinery is not imported from any other branch of knowledge: it is built up on the very ground where it is to operate. In the later developments, when Psychology on the one hand, and Philosophy on the other, assumed shape and obtained their present *locus standi* among the Subject-sciences, it may have become related to those two branches in the way of both giving and taking; but Aristotle's mode of going to work was to study actual examples of reasonings, good and bad, and to draw from these the formulæ of reasoning in general; in other words, the Syllogistic scheme and all that related thereto. It was in the same way that Grammar was formed by generalising the constructions in actual speech. Bacon's Induction was derived in a similar fashion. Newton's Rules of Philosophising grew out of his study of the theory of gravitation, the only extraneous help being Ockham's razor.

If anything more is needed on this point, I can cite as an

illustration the question—Does Logic include an Art of Discovery? Mill would seem to say it does not, if we look merely to his emphatic statement that Logic is the Science of Proof or Evidence. But he overshot the mark and contradicted his title-page, which includes an express reference to Methods of Scientific Investigation. The explanation of his position was, I believe, that the Inductive Logic of his predecessors—Bacon, Herschel and Whewell—pointed to invention almost exclusively, and took for granted that, when discoveries were made, the evidence would be forthcoming as a matter of course. What we should now say is, if there be an art of Discovery, it would seem to have a place in Logic, unless, indeed, its mode of operating were unique and entirely detachable from the processes involved in proof.

The use that I intend to make of the reference to a supposed art of Discovery is this. Such an art is not, any more than Proof, obtained from an extraneous source; it grows strictly out of attending to the actual instances of scientific investigation. This was the course followed by Bacon, Herschel and Whewell, for example. I can quote an anecdote in point. In my own *Inductive Logic*, I thought proper to compose a chapter on the Art of Discovery, embodying everything that I could seize hold of as in any way bearing on the art. Believing that the actual procedure of men that had made discoveries must be a principal source of the art, I had a conversation with Thomas Graham, the chemist, and asked him point-blank whether from his experience he could formulate any procedure that would be useful to others in the task of discovery. Graham was a cautious as well as a modest man. Instead of answering directly for himself, he quoted with approval a saying of Dumas—'Follow game'. Now, without attempting to appraise the worth of this advice, I give it as showing that it grew out of the actual work of research, and was not superinduced and derived from any other region of knowledge.

My drift is, I think, now apparent. Logic is avowedly, and by more or less cordial agreement, a body of formulæ for testing and for discovering truth. In this capacity, it would seem, judging from its origin and sources, to be independent and self-contained; neither borrowing nor lending out of its own domain. Keep it to this function, and you ought not to be troubled with either its invasion of other departments, or its absorption by other departments. There is not, in fact, any branch of knowledge that claims to be its parent;

and there ought not to be any branch that should arrogate its function.

Why, then, is Logic not satisfied with this grand rôle? It certainly has trenched upon matters that may be claimed for other departments: notoriously Psychology and Philosophy or Metaphysics. The fact is that its machinery, contrived in the view of attaining certainty in ordinary matters of truth and falsehood, has been found to possess an independent interest and charm. The formulæ of Concepts, Judgments, Reasonings, ending in the Syllogism, make up a work of intellectual symmetry agreeable to contemplate. Then, again, as we have seen, the searchers after truth have not been contented to dwell in the more familiar regions of the practical and the accessible: they have aspired, like the Titans of old, to take heaven by storm; to lay down theorems as to the origin, extent, duration and government of the entire universe. If there be such a thing as an artificial help to the intellect in arriving at truth, it is pre-eminently needed for the most arduous search of all. Hence, Logic can hardly avoid becoming involved in this transcendental pursuit; many, in all ages, would value it more for its assistance here than for its rectification of the doctrines of physical or political knowledge. Still, its great founder was sparing in his allusion to these high speculations within the *Organon* proper. He did enter upon them, but in a place apart, if we may interpret the etymology of *Metaphysica* as posterior to the *Physica*, and distinct from the *Organon*.

In the subsequent coupling, Logic—Philosophy, I shall return to this topic: here I am exhausting the couple, Psychology—Logic. I am now prepared for submitting to the reader's judgment the proper placing, as between these two, of certain matters that have fluctuated in their position. And, first, as to certain seeming encroachments of Logic on Psychology.

— The grand principle of Resemblance, Identity, Consistency, is vital to Logic; it occurs everywhere. The ultimate test of truth involves a judgment of consistency or agreement. That a certain substance is arsenic is proved by the coincidence of its reactions with certain predefined reactions characteristic of arsenic; implying also its disagreements with all other substances. Now this same property of Agreement enters into Psychology, as a law of the human intelligence connected with the reproduction of thought—the recovery of something formerly experienced at the instance of something resembling what is now present.

As a psychological law, the mode of treatment consists in laying down the conditions that favour and those that thwart the resuscitation; likewise those that determine the direction that it may take among several possibilities. Such inquiries seem wholly unnecessary for any purpose in Logic, except, perhaps, when it overtakes the arduous problem of assisting discovery; while in Psychology they are in their own place, and in the position to enjoy all the advantages of collateral lights. It seems to me, therefore, that there can be little room for dispute as to the partition of this great topic. I cannot help thinking that a chapter on Association of Ideas is out of place and superfluous in a logical treatise; the incongruity being aggravated by considering how little the Law of Contiguity, the chief support of memory, can have to do with any of the departments of Logic. It was expressly adverted to by Locke as a source of bias, prejudice or fallacy; but this is merely an incidental application, sufficient to justify a brief psychological reference, but not a full exposition.

Next, as to Psychology encroaching on Logic. The chief examples of this are found in our older psychologists, who, under the Faculties of Abstraction and Reasoning, went into the nature of Concepts, Judgments and Syllogistic inference. The two-sided character of the law of Resemblance, just alluded to, would be one explanation of this encroachment; which, probably, would not occur in a writer that professed both Psychology and Logic. For example, Mr. Spencer never penned an avowed treatise on Logic. This may account for his including under Psychology several chapters on the theory of Reasoning, exactly as he would have given it in a logical treatise. He goes over the ground of the Syllogism, and sets up a rival to the old Aristotelian scheme. Now, while there is no apparent advantage in placing the topic in the line of a psychological exposition, the Psychology proper can hardly fail to suffer from the interruption.

If there be one point more than another that would seem exclusively logical, it is the enunciation of the Uniformity of Nature as the axiom at the foundation of all inductive proof. Some are of opinion that it should be referred to Psychology. For this I see only one pretext, namely, that we have an instinctive tendency to believe that what has been will be; which, however, does not make the doctrine either more or less certain, or in any way affect its exclusively logical bearing. If it is to be partitioned between Logic and any other department, that must be Philosophy, as will appear in the sequel.

So much for our first coupling. The chain of exposition would be apparently least unbroken if the next were Logic—Philosophy; but as this brings up the final question of all, everything that can prepare the way should first be added.

The couple Psychology—Ethics would open the very wide door of the ethical province. The designation 'Ethics' is notoriously elastic. The initial difficulty is peculiar to Ethics itself—namely, the wide difference between the ostensible object of the science and its ordinary treatment.

If, as is commonly said, the science of Ethics teaches the moral and social duties of men, an effective refutation was given by Plato in the *Protagoras*. Men's duties have been all along taught, not through formal enunciation and methodical arrangement, but by discipline for neglect and approbation for compliance. Such is the education of the family and the community, to which a science of Ethics adds but little. If, with Paley, we add the 'reasons,' we must put a peculiar construction upon that term. It is not 'reason' as meaning the ground or justification of moral precepts; the implication being that these have to stand or fall according as the reasons are adjudged to be satisfactory. Society does not allow the reasonableness of its dictates to be opened up in this way. The only reasoning that is tolerated is the reasoning that assists in overcoming men's reluctance and repugnance to do their duty; in short, it is received as an aid to moral suasion, which has always been very much in want of support. Nor can it even be said with much truth that Ethics abbreviates the education in duty by a summary and methodical arrangement of our several duties. Our experience in society hardly leaves us ignorant of any important requirements; and, as to the difficulties of conflicting obligations that made the Casuistry of the former ages, a scientific discussion is of very little use, and modern writers seldom waste their strength on such difficulties. They can be settled in the same courts that settle the rest—the courts of social opinion—adjudicating on actual cases as they arise.

The first great work on Ethics, the work of Aristotle, sufficiently proves the difficulty of limiting the field. I have already put stress upon Aristotle's vantage-ground in deciding what should fall under each of the several sciences of the subject-sphere. He had Psychology (although the least matured of the group), Politics, Logic, Metaphysics, Rhetoric to relieve the plethora of his Ethics; yet he still retains there a quantity of psychological matter—desires of the Soul, the nature of the Voluntary and Involuntary, the

theory of Pleasure—his only tenable excuse being that all these points were incidentally raised in connexion with Ethics as viewed by him.

If we refer to the questions most usually associated with Ethics in modern times—the Standard and the Faculty—we can discover very little connexion between them and the moral rules that society has established and takes pains to enforce. A law is a law when once it is adopted and promulgated, and its origin does not make it more or less obligatory. Whether the standard be social utility, an instinct implanted in us, or a revelation of the Deity, the regulation of conduct is the same. Even the divine origin makes no essential difference; the enforcing body, being the existing community, may be just as strict in one case as in another.

We can see from Aristotle that, in order to make a systematic and scientific Ethics, he took an entirely new and independent start, namely, the consideration of human excellence, according to an ideal standard, under which the individual is a law to himself, and aims at something higher than conformity to the rules of the general community—rules that needed no scientific investigation, or even express embodiment in verbal formulas. It was thus that he was led to define man's chief Good, or Highest End, and under it the several virtues, according to their consummate type of a golden mean. So also his definition of Friendship, as the highest source of Social satisfaction, and the perfect union and adjustment of the Egoistic and the Altruistic regards.

Now the remark on all this is that the Aristotelian treatment, as well as the continuing form of scientific Ethics, consisted not in deriving maxims from other departments of the subject-region, but in working directly and inductively upon the field of human conduct, just as Logic was derived from a study of actual reasonings, good and bad. Ethics is thus, to say the least, a department by itself, not capable of being merged in any other, and not justified in absorbing any other, although liable (like all the sciences we are now considering) to vacillation of boundary, and the consequent need of a rectifying operation. It is not difficult to see where the rectification, as regards Psychology, should take place. Without stopping to argue the conclusions, I assume without hesitation that Psychology should claim absolutely the handling of the Will, the nature of Conscience, whether it be viewed as simple or as complex, and the reality and sources of Disinterested Action. With equal confidence, and with a still greater concurrence of opinion, I affirm that the

inquiry into the Standard is a unique research, and should have the field to itself; it is not psychological, not logical, not philosophical or metaphysical. How far it may touch upon Sociology, still more upon Theology, is a distinct matter, and will be referred to presently.

I must now be allowed an observation upon the standing anomaly of Ethics—the composition of large treatises without any direct bearing upon the moral conduct of mankind, supplying no new instruction as to what society expects of us and only a very slight aid to our motive power in doing right. If Logic were to be as barren for its avowed object as the corrector of inadvertence in matters of true and false, it would, in our utilitarian age, lose its place and prestige for good. I take it, then, that the topic of the Standard, so incessantly rediscussed, owes its importance to its bearing on the supernatural or divine. At all events, there have always been theorists who could see theistic consequences, not only in the doctrine of Revelation as the standard of morals, but in the theory of Intuitive or Instinctive morality. Now, any matter of speculation that touched these vast issues would acquire a transcendent importance, in comparison with which the regulation of social duty, even if that were really accomplished by ethical inquiries, would dwindle into insignificance. Hence it is that the ethical writer is not likely to remand to Psychology proper the analysis of Conscience. For the same reason, Free-will, which has also been credited with high theistic bearings, may, in spite of any remonstrance of mine, continue to be regarded as an indispensable portion of the science of Ethics.

It is with the next coupling that our difficulties begin, although they do not end there: I mean Psychology—Philosophy. As with the foregoing couples, the plan to be pursued is still the same. We assume, provisionally, a field for Psychology and Philosophy respectively, and, by concentrating our gaze on the conterminous portions, endeavour to rectify the boundary in cases where we find overlapping or encroachment. I will begin with one vast question, which seems undoubtedly to have a foot in both regions: I mean External Perception. Can this be made out wholly and purely psychological, to the riddance of Philosophy from one of its chief embroilments? Can it be retained bodily in Philosophy, to the lightening of the burden of Psychology? Can it, with advantage to itself, be distributed between both, and, if so, upon what terms, and in what divisions?

If we answer the first question we answer all the three. I repeat, then, can everything that fairly appertains to this problem be exhausted under a purely psychological treatment? I think not. What seems to me truly psychological, and in its proper place in Psychology, is the analysis of Object and Subject considered as compounds. If, indeed, their composite character is denied, as, for example, by Ferrier and Samuel Bailey, there is nothing psychological in the matter. But I do not understand this to be the position of the most extreme Realists, as Reid or Hamilton. Even Spencer, who is a decided Realist after a fashion of his own, makes a very elaborate analysis of the objective and the subjective sides of our knowledge, resolving them into psychological elements of sense and intelligence. If, then, this is allowed, the place for it must be Psychology, where the components are described with all the advantages of collateral exposition. Theorists of every school have put stress upon the feeling of Resistance as the groundwork of what we call the Object-world. And it is no less apparent that to the Object attaches the peculiarity of being the same to all minds—an admission that leaves open the matter at issue between the Realist and the Idealist. The psychologist is thus free to give his view of the mental components of the Object-consciousness and the Subject-consciousness respectively, and to maintain that view against rival thinkers, simply on the ground of sufficiency or insufficiency as an analysis, there being no properly metaphysical consideration admissible in the decision; just as the nature of Conscience is the purely psychological part of Ethics.

Supposing this point allowed, there awaits us the controversy between Realism and Idealism. Now, although Mr. Spencer includes this, too, in his *Psychology*, as he does the logic of the Syllogism, he separates it entirely from the psychological analysis, and conducts the inquiry in a totally different manner, not in any way invoking Psychology into the discussion. In nine successive chapters, extending over seventy-five pages, he reviews the whole question in dispute, endeavouring to refute the averments and reasonings of Berkeley and Hume, and to establish, by a variety of considerations, the Realistic position, after purifying and reforming its language, under the designation of Transfigured Realism. Now, my contention is that this is not a properly psychological exposition like the analysis of Object and Subject. True, there are assumptions respecting the mind drawn into the handling; but that is not enough. We may make applications of

psychological doctrine in a thesis that would not be properly placed in a system of Psychology, there being perhaps concurring applications of other sciences, as Logic, Physics or Physiology. What is the real brunt of the Perception-difficulty? Plainly the demonstration by Berkeley (to his own satisfaction at least) that an independent external world involves a contradiction in terms, and that *esse* means no more than *percipi*. Well, how have the combatants on both sides gone to work over the question? In various ways, no doubt; but, as an example, we need only refer to the favourite contention of the Realists, that consciousness testifies to an External World independent of our minds and consciousness cannot lie. The Idealist must deny this testimony, or he must interpret it differently. Now such matters as the authority of consciousness and the import of the term 'External' may be said to run close upon both Psychology and Logic, and may derive elucidation from both, but yet may be properly withheld from the regular exposition of either, and be assigned a place apart. This place would be, as I conceive, in the department named by the several designations, Metaphysics, Ontology, Philosophy. While I am satisfied that an advanced Psychology and an advanced Logic are alike serviceable to the determination of the controversy, I do not consider that either can dispose of it finally. This, then, is one topic that would come under the head of Philosophy.

The next example is the Kantian position in the *Pure Reason*. Kant himself maintained that his theory of Knowledge, being concerned with validity and not with fact, was outside of Psychology; and he was right. Supposing anyone were to attack him on his great thesis—the possibility of synthetic judgments *a priori*—and were to join issue upon the geometrical proposition, 'Two straight lines cannot enclose a space'—the controversy would certainly not be psychological; it would be by a combination of Geometry and Logic that the allegation could be either confuted or maintained. The answer of most thinkers at present would be that this proposition, whether *a priori* or otherwise, is not a synthetic but an analytic judgment; yet, for my own part, if I were to be very rigid, I would no more raise the discussion under either Geometry or Logic than I would under Psychology. I would invoke both these sciences as adjuncts to the settlement; but that is quite different from introducing it into either in the regular march of the exposition.

The allied Kantian position—that regards Space and Time as pure subjective 'forms' imposed by the mind on a

'matter' of experience—would seem to be an item of pure Psychology, inasmuch as an adequate psychological resolution of the notions into primitive elements of sense and intelligence would be the appropriate alternative. It is not, however, in this way that Kant is usually met: the disadvantages of such a polemic are too serious. While the analyst has all the difficulties of an arduous problem to encounter, the Kantist has only to criticise the weak points. What is usually attempted is to confute Kant on his own ground, on the score of inconsistency with himself, or with the admitted conditions and facts of knowledge, just as with the synthetic judgments *a priori*. Hence the discussion is properly extra-psychological, in the sense already given; that is to say, it may apply psychological as well as logical knowledge, but would not form a chapter in a continuous scientific or methodical treatment of either department.

A third boundary-question, under the present couple, is the crux of Epistemology, or Theory of Knowledge; that is to say, the impossibility of knowing a sense-particular without a pre-existing generality that sense cannot give. This is merely another way of putting the Kantian position, but it is not confined to Kant; it reappears in all the anti-empiric or *a priori* schools. It is the deadlock of the knowledge-question, and its chief analogue is the celebrated puzzle of Zeno, on motion. Of it I will merely say that it has an apparent connexion with Psychology, seeing that the psychological analysis of knowledge should dispose of it. Nevertheless, a wary psychologist will not venture to establish the empiric, as opposed to the intuitive, solution by means of his analysis; just as Newton would have declined resolving the paradox of Zeno, as not in his parish. It is a question of how we made our first start in knowledge; and that question we have no means of solving except by the analogy of our present progress, in which general and particular are inextricably commingled. On the whole, therefore, in the partitioning of Psychology and Philosophy, this also would pass to the latter of the two, with the same permission to make occasional drafts upon the established psychological conclusions; yet not more so than upon Logic, which ought to intervene in all propositions that are accused of self-contradiction.

Fourthly, the ultimate grounds of the validity of knowledge, or the legitimate sources of belief in the last resort, are least of all included in Psychology. For although belief, as a state of the subject, ought to be resolved in a psychological system, the groundwork of belief in any given propo-

sition must be something outside ; just as the account of conscience as a faculty does not carry with it the grounds of our several duties or of obligation in general. I have already adverted to the most fundamental of all assumptions—the Uniformity of Nature, the validity of which, as I conceive, is not established either by Psychology or by Logic.

Enough for the present upon the couple, Psychology—Philosophy. We may recur to it in the handling of our final couple, Logic—Philosophy, which ought to cover nearly all the remaining ambiguities that beset the province of Philosophy.

The first point of contact of these two branches lies in the special definition of Philosophy as the unity of all knowledge, the common groundwork of the sciences. Every separate science has its narrow sphere ; Philosophy in some manner deals with the whole.

Now, there is an aspect of this unity that might very well come under Logic, as being one of the auxiliaries to its principal aim ; I mean the Classification of the Sciences, and of all knowledge, upon some definite principle that would set forth their mutual bearings—their points of agreement and difference, their order of dependence and succession. Various attempts have been made to construct such a classification ; the most ambitious being, perhaps, those of Auguste Comte and Mr. Spencer. So enamoured was Comte of this aspect of his *Philosophie Positive* that he made it, in part, his justification for attaching the venerable term 'Philosophy' to his work, after repudiating Metaphysics, on the ground that he had clenched the unity of human knowledge by his arrangement of the sciences according to their natural sequence, and had assigned to each its characteristic method or logical peculiarities.¹

This meaning of Philosophy may be looked at as we have been looking at all the rest. Has it a suitable place and a

¹ Comte had another reason for assuming the title '*Philosophie Positive*,' namely, his three 'stages,' or modes of viewing the whole Universe of things—theological, metaphysical and positive. There is much to be said in favour of applying the word to this great transformation of human thought. It is a process not properly included in any of the sciences, physical or mental, and is not out of kin with the usual topics of philosophy. As a Method, or point of view for regarding the world, we might enrol it among the reserved topics given at the close of the paper as making up the philosophical field. I think, however, that the discussion raised by it falls better under Theism than under Philosophy. It is usually in the interest of Theism that Comte's stages are counter-argued. His 'metaphysical' stage by itself does no harm to anyone, and would scarcely provoke a serious criticism. His illustrations would find a place among Logical Fallacies.

proper kindred with any other recognised branch of the Subject-sciences? In point of fact, it has actually been disposed of in three ways. First, it is treated quite apart by Mr. Spencer, whose *Classification of the Sciences* is a work by itself; it is outside even his very comprehensive expository scheme. Secondly, it may be an introduction, or prolegomena, to a scientific series which aims at representing all our knowledge that has taken scientific form. Comte himself is an example of this. Thirdly, it may be included in Logic proper, as I myself have dealt with it. If any one of these is a legitimate placing, the effect would be to keep it distinct from Philosophy.

As, however, the supposed unifying scope of Philosophy is not fully made out by mere classification, we need to find what is left over. Now, while each science has its fundamental notions—Physiology, life; Chemistry, atomic combination; and so on—there are certain other notions still more fundamental and pervasive, as Space, Time, Cause. These are assumed in all the sciences, upon the basis of a certain number of concrete examples, by which they are so far fixed as to be used consistently and intelligibly for scientific purposes. Nevertheless, there has been suspended on all of them a kind of discussion very different from what is usual in science, namely, their origin as between the subject-mind and the object-world. Space and Time we have had occasion to notice already. Cause, in like manner, has its transcendental puzzles, which the mere man of science refuses to deal with. General as the notion is, he still includes it in the ordinary scientific treatment; it recurs in all the sciences after Mathematics, and has a different embodiment for each—Gravity, Heat, and so forth. But although it runs through several sciences, and is thus a common or unifying principle, it is not, therefore, on that account outside science altogether, and in want of the retreat that Philosophy provides. Only when Hume reduced Causation to a pure empiricism, and provoked a counter-demonstration from metaphysicians at large, did the notion assume an aspect out of relation to science, and in keeping with Philosophy. So long as the point raised by him continues matter of controversy, there is at least one topic that will seemingly give Philosophy a *locus standi* in contrast to Physical Science. Not conclusively, however, until it be seen whether Hume's difficulty may not be overtaken in Psychology or in Logic, one or other, or in both? Undoubtedly, there is a psychological inquiry as to our idea of Cause, whether it is an intuition or

a product of experience and association; there is also a logical inquiry as to the certainty or validity of the belief in causation. But, if we have already concluded as regards Psychology that Space and Time have a controversial phase appropriate to Philosophy, and also that the validity of Nature's Uniformity is assumed by the logician without debate, then, to be consistent, we must reserve the treatment of Cause in its final analysis to the philosophical region. What makes a Cause causal? asks the metaphysician, and this he does with a view to withdraw the question from Psychology and Logic alike, and to retain it in his own special province.

One more plunge into the depths of Metaphysics brings up the formidable contrasts of Knowing and Being, Thought and Reality, Appearance and Reality, Phenomenon and Noûmenon, Relative and Absolute. The word Ontology is applied to this class of inquiries, so is Metaphysic, so also is Philosophy. Our present plan is to regard the whole compass of these three designations as making up but one department, for which Philosophy is a title justified by a certain amount of respectable modern usage. Therefore the point at present is, how much of the discussion that the several antithetic couples give birth to can be disposed of under Psychology or Logic, so as to leave a minimum to Philosophy proper. The preliminary question, however, what do they severally mean—are they, or are they not, different names for one problem—would have to be disposed of, even before asking how much of their contents would go to Psychology or to Logic. A science that is aware of its own province would decline to consider whether an ambiguous notion or proposition fell within that province. First tell us clearly what you mean, express yourself in language that is devoid of equivocation, and then we can say whether the matter pertains to our branch of inquiry—such is the psychologist's and the logician's reply to the request for admission into their respective domains. Now, nobody can have surveyed the problems of so-called Metaphysics or Philosophy in the most superficial manner, without seeing that the definition of vague terms was an indispensable preliminary to most of the inquiries. To which it may be replied—That would bring it within the logician's province: a very plausible, but not a conclusive remark. There is this much in it, that Logic may give some artificial aid in defining general terms, as when it suggests and explains the importance of taking a notion on its two sides, positive and negative—superadding the statement of what the notion is not to what it is. But then, supposing Logic to originate

this prescription and to give it form and illustration, it is not bound to go out and enforce it everywhere, or in the difficult problems of human knowledge in general: all that is properly obligatory on the logician is to give sufficient examples to make the process intelligible and applicable; each learner then carries it into operation in his own particular walk, the metaphysician and philosopher among the rest.

If Knowing, as opposed to Being, Existence, Reality, is but one problem, the preparatory inquiry would be to give some explanation of the meaning of the great abstraction thus variously named; which would at once open the controversy with those that regard 'Existence' as a factitious and incompetent term, as, in fact, having no meaning, inasmuch as it outstrips the relativity of our notions, which makes the final end of generalisation a couple, and not a unity. Seeing that I do not here pretend to arbitrate or take a side on this matter, but only to determine in what compartment or division of the Subject-sciences it should be fought out, all I have to decide is, that neither Psychology nor Logic is the place, and thus, by a process of exhaustion, it must be received into Philosophy. The great Perception-question is in close alliance with the question of Knowing and Being; and many thinkers include the two under one treatment. Still, it is possible to distinguish the two, or to regard the first as more limited than the second. Our mode of dealing with a world that is open to our perception, although difficult to express otherwise than as perceived, is not the same as the handling of a world out of all relation to perception. The difference mainly resolves itself into our stretch of assumption of what is beyond. The solution of the Perception-difficulty will not carry with it the conclusions that we expect to draw from Philosophy, as, for example, Theism. To the wider region of Thought and Being would fall the Unknowable, as raising the same debate on the nature of Relativity,—whether Relation can be extended beyond co-related couples, in the ordinary acceptation, to a couple 'Relative—Absolute,' and so, by implication, establish an Absolute and Unknowable. At all events, these are clearly matters not for Logic, any more than for Psychology, and therefore stand forward as candidates for admission into Philosophy.

Although the modes of expressing these great final issues are numerous, the problems underlying are not so. I have already enumerated nearly everything that is debated within the transcendental region. I would omit the 'nearly' but for one supremely important issue—namely, Theism, or

God and Immortality, for which Philosophy is regarded as an essential preparation. Now, what concerns the present discussion is, whether or not Philosophy should absorb Theism, or Theology, on account of this close relationship. The considerations that seem to me to negative this absorption are these. The sources of the theistic argument are usually referred to several departments of knowledge, physical as well as mental. Biology contributes the argument from design. Psychology is appealed to on intuitive first truths, free-will and a moral sense. Philosophy reserves such questions as we have been disentangling from the other branches of the Subject-department. Now, we may fairly reason that Theism should no more be absorbed into Philosophy than into Biology, Psychology or Logic. Because Biology provides the argument from design, it does not, in its own expository course, pursue that argument to its theological applications. So with Philosophy. The theologian or anti-theologian may there find weapons for his special purpose, but the expounder of Philosophy, in supplying those weapons, does not make himself either an advocate or an opponent of Theology. The very limited Theism of Aristotle might very well have been accommodated in his treatment of such topics as we now call Philosophy. But modern Theology has assumed dimensions incompatible with such treatment; and it is a much nearer approach to the fitness of things for Theology to swallow up Philosophy, as in Dr. Martineau's recent work. No doubt we are accustomed to the claim on behalf of Philosophy, that it is, by pre-eminence, the foundation of the theistic structure. That this claim will ever be generally acknowledged is more than doubtful. We cannot well suppose that a branch of knowledge that is with difficulty freed from the suspicion of word-juggling, can be the main support of the two most tremendous issues ever submitted to the judgment of mankind.

Reviewing now the array of topics obtained by the method of comparing the several Subject-couples, at their points of contact, we have to examine the result from another side. The criterion of the philosophical residuum hitherto has been want of sufficient kindred with Psychology, Logic or Ethics; more particularly the two first. We must add the further criterion—kinship in the topics themselves. Let us ascertain whether there is a sufficient community, in the matter and the method, to make it profitable to include all these topics in one field of investigation.

The following is a summary list of the residual or reserved questions, as they have come up in the course of the survey :

1. Uniformity of Nature—its grounds and validity.
2. The Synthetic Judgments *a priori* of Kant.
3. Space and Time as forms antecedent to experience.
4. Knowledge generally, as respects its origin in the Universal or the Particular.
5. The problem of External Perception, as between the Realist and the Idealist.
6. The wider question variously expressed as Knowing and Being, Thought and Reality, Relative and Absolute, Knowable and Unknowable, Unity in Duality.
7. The nature of Cause in the respective spheres of Matter and Mind.
8. Validity at large; the place of the Feelings in Belief.

I do not pretend to have given the best arrangement of these topics; nor do I insist upon any particular order in their handling. To fix an order is to take a side, and to incur the crushing rejoinder of Demosthenes to Æschines, at the opening of the *Crown Oration*, that it is the inherent privilege of a litigant to choose his own order, instead of being dictated to by the opposite party.

I might appeal to the unreasoning intuition of those that are familiar with Subject-studies, whether these questions have not a common ring. I might farther refer to professed synopses of the department, applying, where necessary, the excision demanded by the foregoing survey.

More convincing than either of these arguments, because closer to the point in hand, is the specific comparison of the several themes, which shows intimacy of relationship in various ways, and more particularly in these two. In the first place, certain of the questions so nearly resemble as to be accounted identical by some reasoners, though not by others. This applies to the very commanding pair (5, 6) of External Perception and Knowing *versus* Being. Next as to 2, 3, 4—the origin of Knowledge, what solves one will probably solve the rest. This group of problems cannot be positively identified with the other, but would commonly be deemed a suitable preparation or collateral support. The relationship between 1, 8 (Validity) and the rest is not similarity but dovetailing; they present the questions in their vital aspect, the certainty or reliableness of the conclusions reached. The discussion of Cause (7) chimes in with (1) Uniformity of Nature, and has certain points of contact with (3) Space and Time, while containing an element peculiar to itself in the forecast of the Theistic argument.

As involving the method of procedure and the difficulties

to be overcome, there is one pervading feature in the whole class, namely, the stretching of abstractive generalisation to its utmost bounds, and far beyond what is deemed necessary for scientific specialists in their several departments. This operation puts a severe strain upon the capacities of language, and demands extraordinary precautions against deception and bamboozlement. The faculty and the training for such a work may be regarded as identical for the whole class.

In conclusion, I believe I am correct in saying that the best authorities on the philosophical province would admit all the points I have enumerated, and would quarrel mainly with my proposed omissions.

Note on the meanings of 'Philosophy'. This word deserves a history to itself. Its fluctuations and fortunes need to be reviewed in order to pronounce on its ultimate destination. The conclusion arrived at in the foregoing article—that the name is now to be regarded as the principal term for the transcendental branch of the Subject-sciences, taking the place of Ontology and Metaphysics, or using these as mere stepping-stones to its own predominance—is still open to challenge in this country, seeing that here, at least, the wider meanings have not yet been abandoned.

To refer to the origin and employment of the word in the schools of Greece would only be a preface to its spread in modern Europe, at the time when the Aristotelian curriculum was adopted in all our Universities. The breadth of the original term, as implying the higher form of knowledge attained by careful examination of facts, and speculative boldness in the search for causes, survives to recent times; and a conflict of usage is still traceable between the wider and the narrower acceptations of the term.

Hamilton (*Lect. Met.*, i. 63) contends that the limitation of the term to the Sciences of Mind has been always the usage. As to the prevalence of the wider meaning in this country, he declares that we thereby "expose ourselves to the ridicule of other nations". This may be so, but we are not yet in the way of finally succumbing even to that potent influence, nor disposed to surrender the term to the mental domain exclusively.

A very little research into scientific history shows the wide prevalence of the designation 'Natural Philosophy,' while its equivalent 'Physics,' or 'Physical Science,' at this moment only halves the territory with the older name. The proof is easy: it is a matter of statistics from patent facts.

Thomas Young's Catalogue of works on Mathematics and Physics, which comes down to the beginning of this century, is very convenient for historical reference. It shows exactly the comparative prevalence of the two designations 'Natural Philosophy' and 'Physics'. We are sufficiently correct in saying that, up to Young's date, the first is universal with English authors, and the second not less so with foreigners. Newton's illustrious example in the *Principia* would carry his countrymen with him, even if he and they had not yielded to a common impulse. The French are unanimous in adopting the term 'Physique'. The Latin treatises on the Continent are usually entitled 'Physica'. The English translators from French or Latin nearly always give the home-designation, 'Natural Philosophy'. Young himself may be taken as introducing the present century, and he adheres to the same title. I

believe a catalogue following his up on the same scale would show the continuance of the title for a good many years longer. Perhaps the first popular work that broke with English usage was Dr. Neil Arnott's well-known treatise; and the great circulation of that work must have told in favour of the title. Arnott's motives, however, as I learnt from himself, were somewhat mixed. He had, he said, to contend with a common prejudice against any medical man that took up his mind with things outside the profession, such as Natural Philosophy might be supposed to be. In the French word he found a convenient equivocation, which would serve as a blind to the ignorant. 'Physics' would be interpreted by a large class as 'Physic,' and would be thought strictly professional.

As we come later down, we find 'Physics' creeping into use, but many authors of the highest repute, as Sir John Herschel, clung to the old term. The great work of Professors Thomson and Tait is styled 'Natural Philosophy,' the title of their chairs. Probably their strongly-avowed deference to the very letter of Newton would be a motive for copying the title of the *Principia*.

In applying the statistical method to strictly contemporary usage it must be premised that all our public foundations for teaching the science make use of the old term. The Universities, English, Scotch and Irish, employ it for all chairs of any standing; hence professors and lecturers are reluctant to depart from it in their published works. In fact, the shortest method of getting at the facts is to look out for exceptions.

In Cambridge, the new chair of research in the Devonshire Laboratory is styled 'Experimental Physics'. 'Experimental Philosophy' was a very common term in former days, and is the name for a chair in Oxford, also in the new Durham College of Science at Newcastle. King's College, London, retains 'Natural Philosophy'; but in the earlier foundation, University College, this name (which had 'Philosophy of Mind' as its parallel for another chair) has given place to 'Physics,' employed also in Owens College and generally in the newer institutions. The prevailing language of published works in the sciences at large is manifestly in favour of preferring 'science' to 'philosophy' throughout.

A few words next on *Moral Philosophy*. This is also a title adopted and kept up in the older University foundations. It has been notoriously stretched beyond its original signification, and made to embrace a full course of Psychology, with Ethics superadded. The interesting point is to observe a tendency to disuse the word in favour of other designations—Psychology, Mental Science, Science of Mind, Intellectual Powers, Active Powers. Stewart and Brown give as titles 'Philosophy of the Human Mind'. Beattie, for a wonder, uses the phrase 'Mental Science'.

Hamilton's position is somewhat singular, and offers a puzzle to foreigners. He claims for the whole sphere of mind, or the Subject-sciences at large, the exclusive right to the word Philosophy. At the same time, he is very decided in regarding Psychology as the correct title for the science of mind; in short, for his course of Lectures embracing that science. Why, then, does he not use it? Why does he not even use 'Philosophy of Mind,' like so many others? Why does he prefer 'Metaphysics' as the title of the course? The explanation is easy, but not much more relevant than Arnott's choice of the word Physics. It was simply to suit the designation of his chair—'Logic and Metaphysics'. This compelled him, as it has done others who wished to treat the powers of the mind in a Logic chair, to regard Psychology and Metaphysics as synonymous. He could not have used 'Philosophy' without invading another man's chair: Reid, Stewart and Brown were professors of *Moral Philosophy*, under which title they too gave a psy-

chological course. As the professors of the Logic and Moral Philosophy chairs in the Scottish Universities seldom act in concert, so as to partition the psychological department between them, each one gives as much or as little Psychology as suits his individual liking; but they are alike precluded from using the name as the formal designation of their courses.

In spite of the influence of the old University-nomenclature, the tendency to extrude 'Philosophy' from the exposition of the mental powers is apparent even among ourselves; and we are gradually educating ourselves to the inevitable restriction of the domain as above expounded.

In Germany, the narrowing process is complete; and German influence is hastening it here. If this note were not already too long, I should like to quote a very striking passage from Lotze in illustration. The following are the introductory sentences:—"Philosophy is a mother wounded by the ingratitude of her children. Once she was all in all; Mathematics and Astronomy, Physics and Physiology, not less than Ethics and Politics, received their existence from her. But soon the daughters set up fine establishments of their own, each doing this earlier in proportion as it had made swifter progress under the maternal influence; conscious of what they had now accomplished by their own labour, they withdrew from the supervision of Philosophy, which was not able to go into the minutiae of their new life, and became wearisome by the monotonous repetition of insufficient counsels."

This is Lotze's statement of the residual ground:—"This condition of things contained incentives to a constant repetition of two questions—first the question as to the intrinsic nature of existing things whose manifestations to us are the subject of our observation, and secondly the question as to the connexion in which this world of existing reality stands to the world of worth, of what ought to be. And all attempts to answer these two questions always stirred up forthwith a third question, that as to our capacity of knowing truth, and the connexion of this capacity partly with existing reality and partly with that which reality ought to be and produce."

The closing remark on the whole survey is to ask—What is the future destiny of the terms Ontology, Metaphysics, Epistemology, which, either separately or in combination, would have sufficed to cover all the ground that we have been considering? I can give no authoritative answer to the question, however relevant or reasonable it may be considered to be. I only know that these terms must give way to Philosophy as the comprehensive designation of the field. Their position as subordinate titles is not so easy to assign. For one thing, it would be confusing and impracticable to divide the ground amongst them, and give each a portion under the larger title; consequently, they must be dropped as names of departments, and cease to appear in our Encyclopædias as such. They could still remain in the Philosophical Vocabulary as words that have had a historical standing, which they no longer preserve. But farther, it is often remarked that though our language contains numerous groups of synonyms, yet we find on examination that almost every member of such groups has a slight shade or peculiarity that no other possesses; so that occasions arise when one is more suitable than the others. Now, it may be said of these three terms that their history has given to each a fitness for certain applications, as descriptive terminology, in characterising the special questions included under the name Philosophy. I do not need to protract this note by special illustrations; they will readily occur to my readers.

IV.—A BASIS FOR ETHICS.

By Professor S. W. DYDE.

THE object of this article is to present a metaphysical principle which will serve as a basis for Ethics, and to apply that principle to one or two of the test-questions of moral science, with the view of pointing the way towards a possible reconciliation on the one hand of Intuitionism and Utilitarianism, and on the other hand of Egoistic and Universalistic Hedonism.

First, then, I assert the principle not simply that the self, from whatever point of view it may be considered, is opposed to the other-than-self, but that the opposition of the self to the other-than-self, or the antagonism between man and nature or God, is transcended through a union which is the fulfilment of each of the hostile members. From this it would result that man before any conflict with the world must be counted as a mere potentiality, and that only through such conflict can he realise his capacities. In other words, it is only when he identifies himself with that which at first appears foreign and opposed to him that he comprehends his own nature. As an illustration of this principle, man may be considered as a unit in space, as body, as composed of different substances, as possessed of life, and as a member of society. The knowledge of myself as a unit would seem to be the knowledge of myself as absolutely distinct from any and every other unit; but I as a mere unit am at once absolutely distinct from and absolutely identical with every other unit. If I were merely an individual object, I might be any one of an indefinite number of objects. The nearer is the approach to absolute difference, the nearer the approach to absolute identity. Again, man as a body of a peculiar shape is clearly separate from all other bodies, but, inasmuch as all bodies are extended, man as extended is not different from but the same with other bodies. However much bodies may differ in shape from one another, they are alike in that they all occupy space. A knowledge of myself as occupying space implies a knowledge of space which is the infinite possibility of particular shapes or figures. The opposition, then, between myself and the world from the point of view of the extension of matter is removed by reference to spatial relations. In the physical sciences and

chemistry, it is almost self-evident that the laws of gravitation and chemical affinity, for example, though formulating essential properties of objects, yet make emphatic the dependence of every object upon every other object. When the object is an organism the dependence of it upon that which is other than itself assumes a more prominent aspect. Absolutely to separate a living being from every other thing would be to destroy its life ; so that life implies on its very surface the dependence of the living object on other objects. But if life be considered from the point of view of reproduction, there may be observed two special facts—namely, that the individual in isolation is unable to perpetuate its kind, and that, at least amongst the higher animals, the young can not for some time provide for themselves. The first of these facts reveals the truth that the vital unit is not one particular organism, but the union of it with a complementary organism. The second fact reveals the truth that the vital unit is actualised only in the family. The idea underlying these two relations peculiar to the province of life finds its perfect expression only when we examine the nature of society. Society has been called an organism ; and such a definition is valuable inasmuch as it emphasises the dependence of the members of society upon society and of society upon its members, just as the organs of a living being are dependent on the organism and the organism on its members. This view also serves to expose the fallacy of the theory that society is a fortuitous collection of separate persons ; but it is not itself an adequate view of the nature of the state. The assertion that the state is an organism whose members in turn are organisms would be nearer the truth, and would indicate that the individual did not cease to be an individual in being a citizen. At the same time it may fairly be thought impossible to conceive of an organism whose parts were organisms, the difficulty lying in the fact that terms capable of expressing the phenomena of life are not adequate to express the phenomena of consciousness. But that which remains an insoluble problem from the point of view of life is proved by the fact of society, whose members are separate and yet exist only in relation to their fellow-citizens. If a man could be conceived of as completely severing himself from every possible social interest, he would cease to be a reasonable being. Robinson Crusoe is not an example of such a man, for he took with him to his desert island capacities which had been actualised through society. Nor is it possible to cite or even fancy an example ; for, so soon as you imagine a man, you must of necessity imagine him as pos-

sessed of powers which could never have been his except through connexion with others like himself. The only true solitary is always a potential society, and every act of such a man is the perpetuation of some kind of society. Aristotle said that the solitary was either a god or a beast, by which saying he meant that man as man must be indissolubly connected with his fellows. But this saying of Aristotle's is not perfectly accurate, for a beast is the possibility, if not of society, at least of a herd or a colony, by whatever name it be known, while a god who did not manifest himself in any way is an impossibility.

But, again, just as from the point of view of life the existence of the individual implies the previous existence of individuals, so from the point of view of society the existence of a citizen implies the previous existence of a state. As, too, in the case of life, so also from the point of view of consciousness, man is at first unable to care for himself. From his earliest consciousness he has been becoming acquainted with the institutions and customs which surround him. The citizen is not, Minerva-like, launched full-formed into the midst of his fellow-men, but comes to them fashioned by much the same mould as were they. The Greeks considered the state to be a parent who could control the actions of his children, the citizens. While this view overlooks the fact that a man is a separate existence although a member of the state, it yet points to the truth that every man was in the nursery of the state, and that the majority of men never leave that nursery. It is true that from the point of view of self-consciousness some do rid themselves of the state's swaddling-clothes, some do reach a manhood which is not measured by their years; but these are they who, having fully comprehended the nature of the society in which they find themselves, at once proceed to create, from the materials before them, a society better able to comprehend them. Every man is consequently, in a very important sense, the offspring of his age. Even if he rises above the existing society and is able to notice defects in it, yet that society none the less formed and made him, and so contained within itself the possibility of its own advance. It is plain, therefore, that, if I know myself as a self-conscious agent, or simply if I know my highest self, I know myself not only as distinct from others, but likewise as the crystallisation of the elements which are in solution in society; in other words, the individual can not be merely an individual, but is in a sense society. From this it becomes manifest that a lonely man, if by a man is

meant a self-conscious agent, is an inconceivable abstraction. Further, it is plain that, as each individual is the realisation of a previous society, society as capable of comprehending an indefinite number of individuals is greater than any one of them. While society is the individual it is more than the individual, for it is the infinite possibility of individuals. Without doubt the individual is not simply society, but more than society, inasmuch as he is capable of possessing an ideal of a community not seen as yet; but it still remains true that that community must be realised through the development of the society as it is now constituted.

As a conception gains in clearness by being viewed from various points of vantage, the relation of man to the world may be looked at briefly thus. Poets are fond of telling us that man is what he beholds and touches. It is true that man is a material object in the sense that both he and it are subject to the laws that govern inanimate nature. But it is equally true that man would look in vain in the inanimate world for a complete and adequate reflexion of himself. The ordinary opinion that man is utterly different from blocks and stones and such senseless things has this foundation in truth, that these things are incapable of embodying his higher potentialities. In one sense, therefore, man is not at home in the outer world. But as that outer world is seen to comprehend more and more lofty categories of existence, it answers more and more perfectly the questions which man continues to ask. It is only when the world is viewed from the standpoint of man as rational that the yearnings of the individual become articulate, and that he can begin to comprehend his own nobler destiny. In other words, the process of self-comprehension is the process of the comprehension of the universe. When the correlation of man to the world is fully seen, and the antagonism between them is found to disappear before the unfolding of that self-consciousness of which each is a mere element, it becomes manifest that the supposition of the final dualism between the self and the other-than-self is an assumption which renders impossible the complete understanding of either term. Walt Whitman, in a poem called "Assimilations," says:—

"There was a child went forth every day
 And the first object he looked upon, that object he became;

 The early lilacs became part of this child,

 And all the changes of city and country, wherever he went".

It may not be the most profitable task to turn poetry into philosophy, but such language as the foregoing is the poetic way of stating that, if man seeks to realise himself in isolation, he is attempting to clothe a mere shadow or trying to grasp an air-drawn dagger. Further, he realises himself not simply when he finds that intelligence can lasso the stars, not simply when he feels points of contact between himself and the fulness of the life of nature, not simply when he spends himself in promoting the well-being of mankind, but when he comprehends that nature is a unit or an intelligible system, and that he is one with nature in its whole depth and height. It must be added that man as rational does not find himself completely actualised, and so become absorbed or lose his identity in the progress of the world. He returns into himself after the actualisation of himself in nature, and the more comprehensive estimate of himself, which is a result of this self-measurement, is the condition without which progress would be impossible.

The relation between the divine and the human may be considered from two different points of view, from the standpoint of their differences or from the standpoint of their agreements. But the standpoint of the difference between the divine and the human is itself viewed in two ways: the divine is esteemed sometimes as the mere negation of the human, or again as a negation which yet contains the human within itself. When an individual exclaims against the narrow boundaries of this work-a-day world, his exclamation may announce that he has completely understood the world in which he lives, or that he has not as yet begun to understand it. The young dreamer tickles his æsthetic palate with fancies about the moon and clouds before he has begun to realise the nature of a home. He gambols playfully before he settles down to the eating of grass. So, too, it frequently is with the ardent religious reformer. Often his enthusiasm consists in a diatribe against the world, which he couples with the flesh and the devil as the triumvirate of evil. His society is an ideal which could be defined only as not anything distinctively human. It may in time dawn upon him that his conception of the divine is an empty negation, and that the life, which he had been accustomed to consider as a narrow prison, is an abode all of whose chambers he will never be able to explore. The point of view of mere negation may be found in whole bodies and societies. It lay at the roots of the belief that the early Christians were atheists, and it is largely that which actuates the Salvation Army in its crusade against existing society.

While such a view of the divine is totally inadequate and leads logically to physical and spiritual annihilation, it is yet the first step towards a just estimate, according to the principle that a thorough-going antagonism is the only true basis for a vital union. Consequently, taking this principle as a point of departure, the second view of the relation of God to man includes within the conception of the divine all that is human; at the same time the full significance of the human is not by this view thought to exhaust the meaning of the divine. If it be granted, then, that the divine is the human and more than the human, it may yet be asked—What is the nature of this something more which at any rate seems to distinguish God from man? If we are in any sense foreigners to the intellectual life and moral rule of the Supreme Being, this something more which separates man from God not only is not human but can never be human. If, now, it were said that this celestial element must be, because opposed to the human, both irrational and immoral, it might be replied that, while it was for the present beyond the guess of our reason, future generations might come to comprehend it. But such a reply is not of any avail, inasmuch as, if future generations or we at any future time comprehend that of which we now know nothing, it is manifestly not beyond the reach of comprehension. Nevertheless, underlying the notion of the divine residuum is the truth which is found in the conception of progress. Only by continually showing the inadequacy of the present attainments of intelligence can we advance to other and higher things. It is this truth that has caused those who have been pre-eminently the world's seers to look beyond the narrow limits of the passing hour, and proclaim to ordinary men that new things were approaching and that a cloud, at first perhaps no bigger than a man's hand, was rising above the horizon of their little life. It is, therefore, legitimate to consider the divine as the subject of poetry and faith, if it be understood that the poetic or divine light is simply reason prophesying that it is about to grapple with a new problem. Faith might thus in a figure be called the forerunner of reason.

As a brief sketch of the relation of the individual to society and of man to God has now been given, it must be asked—How has this principle, that man as a mere individual equally with man as a mere citizen is an abstraction, whereas the true individual is he who, though a separate person, is in irrefragable union with the society in which he lives—how has this principle to do with the significance of motives or the question of man's freedom? In order to pursue this

inquiry intelligently, there may be given two theories as to the nature of conduct—the view of Mr. Herbert Spencer and the view of Dr. Martineau. Mr. Spencer considers conduct to be exhibited by all living creatures, and defines it as acts adjusted to ends or the adjustment of acts to ends. This twofold definition permits him, when noticing that the rotifer by its whirling cilia sucks in food, to count such an act as a portion of conduct, and as the same in essence with the conduct of an agent who acts so as to secure an end. If volition is essential to the action to which can be applied terms of approval or disapproval, then, in order to make an ethical subject out of the rotifer, it must be taken to whirl its cilia with a conscious purpose. If, on the other hand, the supposed internal changes of the rotifer are of themselves enough to characterise the essence of conduct, then the free purposes of man form but a more or less momentous incident in the field of ethics. It is by making much of the observed adjustment, and little of the fact that for man such adjustment is a purposed act, that Mr. Spencer is able to connect so closely his theory of evolution with his theory of ethics. It is in this way, too, that he bridges over the chasm between instinct and motive. For Dr. Martineau, on the other hand, a motive or 'spring of action' is, first, a phenomenon of a person or free agent. But as, according to his view, we might be aware of a spring of action without being able to assign to it any moral value, such a spring would be, in the second place, simply a spontaneity or an inner propulsion urging the living being along an unknown track. As an animal or a lunatic may be actuated by a mere spontaneity, a spring of action plainly need not be a phenomenon of a free agent.

It is manifest that each of these theories contains two very different accounts of a motive or spring of action: firstly, that, being a personal phenomenon, it is the expression of a free agent; and secondly, that as it is a mere spontaneity common to man with animals, it is not the expression of a free agent. While these accounts appear to be flatly contradictory of each other, there is a sense in which each is true. It may be true that an animal is urged by a mere spontaneity in a direction unknown to itself; that is, an animal does not act in the same way in which a free agent acts. It may be true, further, that man, perhaps even the mature man, is actuated at times by such a spontaneity. At the same time, not until we have an act, in the full meaning of the word as the product of a free agent, do we enter the field of ethical discussion. Consequently, to obliterate

the distinction between a spring of action from the standpoint of a free agent, and a spring of action from the standpoint of a mere animal, is to make ethics a branch of physiology. On the other hand, while these seemingly contradictory estimates of a spring of action may both be true from the point of view of the history of the individual or the race, both cannot be correct descriptions of a spring of action for a self-conscious agent; for the spring of action for a self-conscious agent has its dynamic source in the agent's mind or will, and is therefore the free identification of himself with any possibility of an act.

The radical distinction between an impulse as a mere instinct and an impulse as the outcome of free-will is disguised under the popular language which attributes to tendencies strife or conflict and speaks of an agent as tempted by his own desires. If moral action is and must be purposive, in the sense that a particular act must be the self-determination of the individual towards a certain end, then, while it may be true that mere tendencies clamour for recognition, it is plain that such tendencies, however clamorous, are quite incapable of initiating a moral act. The only possible initiative is the self-identification of the individual with a certain end, and this self-identification may or may not hush the clamour of a particular tendency. The phrase, 'strength of an impulse,' is capable of receiving two different meanings according to the signification given to the word 'impulse'. If an impulse be regarded as an instinct which propels the individual blindly forward, and as virtually the same, therefore, whether found in man or animal, then the strength or intensity of such an impulse could not, it is evident, depend upon the nature of volition. Such impulses or instincts may be modified in an individual animal or in a species, and an inquiry into the cause of modification would be a task distinctly biological. When the nature of the instincts of a human being came under discussion, it would be necessary to note that in this case impulses were capable of modification through voluntary action. Yet the examination of the extent to which voluntary action alters the character of impulses would be simply one item in the undertaking. But when the subject of ethics is dealt with as distinct from the subject of biology, then the fundamental fact is not that man is a creature of instinct but that he is a free agent. An act is not now the simple uninterrupted career of an instinct but the free adoption by the agent of a certain course of conduct. Owing to the great change in the importance of the fact of will or free union of the individual with a certain possibility

of action, there is a radical alteration in the way of conceiving of an instinct or incentive. The strength of an impulse now means the clearness or vividness with which the agent imagines or conceives of the results of a supposed act. It is not meant that the impulse as a mere instinct, and therefore as stronger or weaker according to the environment, has disappeared on the introduction of self-consciousness. It is meant simply that, though such impulses may and do still find a place in the individual, they do not constitute or help to constitute a motive. If, therefore, mere instincts or spontaneities be under argument, their strength would be ascertained by an estimate of their physiological antecedents. But if the spring of action be viewed as a motive, then the intensity of such a spring depends on the distinctness with which the agent conceives of the supposed consequences of his act. The degree of distinctness with which he conceives of results will be due to the extent to which he has previously made these results his own, and the thorough identification with results is often, though not necessarily, connected with habitual action.

But common sense is on the side of the objection that a man's nature has such an influence upon his conduct, that he is drawn sometimes against his will to commit what he knows to be a misdeed. It would seem to be a general opinion, also, though not proclaimed so confidently as the preceding, that some people are led by their very natures, perhaps not involuntarily, but certainly with little resistance, to do what is right. Further, science would appear to sustain common sense, in that now we have been made familiar with the conception of inherited tendencies either towards goodness, as when a person is said to have a disposition naturally gentle, or towards evil, as when a man is afflicted with a hereditary passion for strong drink. And it might fairly be asked if these things do not affect the question of good and bad conduct. It might be replied that no philosophy, though it might take exception to this language of common sense, could afford to deny the virtual truth of its contention. Men, though they have as human beings a large number of tendencies in common, are of diverse dispositions owing to differences in their surroundings and in the surroundings of their progenitors. But if, to take an illustration, a man is born with what is called a craving for alcoholic liquors, this means, in the first place, that he in deciding whether he shall or shall not drink has to reckon with an unusual physical unrest, and, secondly, that he more keenly estimates the pleasures or dangers of indulgence. Ethics does not deny

the physical tendency or, in popular language, craving, but it asserts that the things of consequence in moral science are, on the one hand, that the results of drinking are not the same for the man whose nature craves stimulants as for those whose natures have no such craving, and, on the other hand, that he and they do not stand in the same attitude towards the possible results. It must further be noticed that one man may give as his reason or excuse for drinking that he has inherited a strong physical inclination for liquor, while this may be the very excuse or reason why another man persists in a regime of total abstinence. Thus there are in men differences in their physical natures and in their attitudes of will towards these natural differences. As the basal fact of moral science is the approval or disapproval of free action, ethics must confine itself to differences in motive or the attitude of will. But it may be asked—If a man with an inherited longing for strong drink is overcome by his passion, would not the sentence of disapproval be lighter in his case than in the case of a man who acted in the same way although not subject to the inordinate temptation? It may be the sentence should be heavier rather than lighter, in that the curse-laden victim should have realised the ruinous results of indulgence. But whether the judgment be heavy or light, the fact remains that the individual in question is not responsible for his having a hereditary craving for liquor, any more than he is responsible for having a hereditary need of food or fresh air. Responsibility begins when he voluntarily undertakes to gratify a tendency; and the insistence upon various degrees of guilt is aside from the mark and only obscures the real issue. Accordingly the current notion, that a free being can be tempted by his own desires, means that certain results of an act are thought of by him as in some way or other pleasant; the fulness of his idea depending, it may be, upon satisfaction, or, it may be, upon dissatisfaction, with his ordinary life.

There is thus a good reason why Mr. Spencer and Dr. Martineau vacillated between two different conceptions of motive. That which requires to be explained is the act of a free being; and while it is, on the one hand, manifestly more than the operation of any mere instinct, it plainly cannot, on the other hand, be extracted out of a mere capacity for voluntary action. How are these seemingly opposed statements to be harmonised? Evidently the mental antecedent of an act is the self-appropriation by the agent of a certain tendency of his nature, and it is rightly insisted that such mental antecedent, and not its external manifestation, forms

the very heart and core of an act. Yet both aspects of that antecedent should be made prominent. No meaning can be attached to appropriation, unless there is something to appropriate; while, again, unless there is that appropriation, there is no genuine act. Pure will, or will without any object to be willed, is pure lawlessness; pure instinct is complete bondage to law, and therefore the negation of freedom.

A motive may consequently be said to have a subjective and an objective aspect. The objective aspect brings to the front the particular tendency of his nature with which the individual has identified himself; the subjective aspect brings to the front his identification of himself with the tendency. To substitute a mere aspect of an act for the act's complete significance is to build an ethical theory upon the sand. A few words may be said about each of these elements of free action. First, what is meant by a tendency of a man's nature or the objective element of an act? Already it has been argued at length that the individual was in one sense separate from, and in another sense identical with, others. Each man is born into a society which has been for many years in the process of formation. In this process, which is never completed, things are brought to light which are both new and old: new because they take on the shape of a new civilisation; old because this new shape is only a modification of one that had previously existed. There is therefore, as time goes on, a wider foundation on which to build. This foundation at any given epoch is the commonly understood ideal of the community, or the recognised laws, institutions and customs of the particular commonwealth. While this ideal changes with the changes in the people, it can at any special period be characterised with a fair degree of accuracy. The growing man thus gradually becomes acquainted with the current understanding. It is sufficient here to note that he is taught by experience the social judgment on many moral questions. As, too, he is the offspring of the state, he is potentially what the state is actually, and the moral judgments with which he becomes familiar are in a sense the actualisation of his own moral capacities. These judgments, which are of course capable of modification and enlargement, form the individual's stock-in-trade. He is not very old, for example, before he experiences hunger and thirst, and, without understanding the significance of the lesson, is taught, by his almost always being supplied with the necessary food and drink, that society has no trouble in recognising the general rule that the hungry man should eat and the thirsty drink. The word 'society' is here used in

an extremely general sense; for plainly, in order that a being should be endowed with the appetites of thirst and hunger, the only society requisite is the union of those who have given him life. These tendencies are therefore due to such society, and are based upon the physical nature common to human beings and many animals.

Careful examination will disclose the wide difference between the change which takes place as an organism gradually exhausts its vital force, and the desire for food which is usually under such circumstances the outcome of free agency. All animal organisms need to be regularly stocked with fuel to replace that which is consumed, and animals generally, no doubt, feel the pain or sentient uneasiness that results from any deficiency in its supply. A man perhaps cannot remember a time when he did not recognise what was meant by this feeling of pain, and did not know how such uneasiness could be removed; but it is probable that many of the motions of infants are but feeble and random efforts to remove that pain of whose nature they are not yet aware. We can fancy the mental state of the child to be a vague sense of uneasiness, coupled with a vague desire for the removal of the uneasiness. But this vague sense and vague desire are very different from, though fundamentally the same with, the man's clear consciousness that his body requires nourishment, and consequent desire for food as the means to satisfy his hunger. So long has a man been aware of the character of his need of food, and accustomed to eat when the need arises, that he finds it necessary to make some slight effort of analysis to distinguish between the physical state or tendency and the volitional state or desire for food. It may further be observed that in the tendency pure and simple is not implied any knowledge of its nature, and so not any knowledge of the objects the appropriation of which would for a time remove the cause of the tendency's pressure. Eating is so common an act that ordinary language has inaccurately designated the bodily tendency as the desire for food; but the bodily tendency, the knowledge of its nature, the knowledge of the nature of food, the desire to remove the cause of the physical commotion, and finally the desire to satisfy one's hunger through the eating of food, are all quite different, though all are found in the act of will of the free agent. Man is cared for so long before he can provide for himself—before he is able even to feed himself—that he is thoroughly familiar with the nature of hunger and the means to appease it before he is called upon to act at all. It is mainly for that reason that he associates a

complete knowledge of the tendency with its occurrence. In other words, the knowledge of the tendency as sentient uneasiness, and the knowledge of that which is capable of removing the uneasiness, are not bound up in the mere tendency, but are habitually associated by the agent with that tendency because of a long experience. Nevertheless, even for the most inexperienced agent the tendency does not initiate any course of action, or urge the being forward on an unknown path; else the being cannot be called an agent. Even for the most inexperienced agent the mental antecedent or true act consists in a desire to rid himself of an uneasiness, and so a more or less definite determination to search for that which will effect its removal. While it is not necessary here to enumerate the possible tendencies of human nature, it is necessary to bear in mind that, though a tendency may exist alone even in man, no free act can be characterised as the self-propulsion of such tendency, and that, inasmuch as such tendency may exist alone, the knowledge of its nature and of the end necessary to be obtained to remove its pressure are not inseparably connected with it but are the product of experience. Or, to put this truth into the language which has already been several times adopted, both man's tendencies and his knowledge of their nature are due to society.

But, in the second place, while the individual is possessed of tendencies which are the actualisation in him of the possibilities of society, yet he, because he is an individual, is likewise the potentiality of their actualisation. From the standpoint of ethics the individual, as the possibility of motive or identification of himself with a certain end, has to wait only till the tendency presents itself in him, or, more simply and universally, till a suitable opportunity occurs. Then he asserts his individuality and appropriates the tendency, or, in other words, wills to act. So we have the second or subjective aspect of a spring of action, namely, the adoption by the individual of any tendency. Accordingly the act, which is the realisation of the powers inherent in society, is none the less the realisation of the individual's own capacity. That which is on one side a revelation of the other-than-self is on the other side a self-revelation also.

Before proceeding to consider the effect of this discussion upon volition and the relation of Intuitionism to Utilitarianism, we may gather up the results thus far obtained. It is admitted on all sides that there are tendencies, called indifferently instincts or spontaneities, which inevitably arise in all living, or at least sentient, beings. Further, inas-

much as these tendencies avowedly do not in the world of mere animals imply consciousness, it is no very rash assumption that they do not in man of necessity carry with them a knowledge of their presence. Thus there are two distinguishable elements—namely, an instinct and a knowledge of the presence of the instinct. Further, if the tendency be a sentient uneasiness, a knowledge of its presence may be followed by, or perhaps in some way involve, a wandering desire for the removal of the uneasiness; but, since there may be no knowledge of the nature of the uneasiness, there may be no effort of will to actualise the means necessary for the removal of the bodily disturbance. Thus we have a certain instinct, a knowledge of its existence, and an ineffectual desire. Thus there may be in an individual a tendency, a consciousness of its presence, and an unformed desire, without there being also any clear conception of the character of the tendency. So soon, however, as the individual becomes aware of the nature of the tendency, he is necessarily aware of the results of its actualisation. If he knows the sentient unrest to be the need of food, he cannot but know that the eating of food will remove the unrest. He is now able to identify himself with a certain end or course of conduct, and with the means also in so far as he knows them and in so far as their adoption is within his power. It is only now that there is obtained the full-grown motive, which implies on the one hand a tendency, which is the outcome of an organism common to all animals or of a mental, moral and æsthetic nature common in some measure to all rational beings, and on the other hand the identification of the individual with the tendency; and this act is the individual's declaration at once that he is himself and not another, and also that he is in essence one with, it may be, the whole race of mankind.

Thus it is evident that volition is very far from being the activity of an instinct. It is quite as evident surely that volition cannot be any spark struck out by a conflict or collision of instincts. As a single impulse may carry a person along an unforeseen track, two would be no doubt inclined to carry him along two unforeseen tracks. But, as it is not possible that the individual should go in two ways at once, it must be supposed that the impulses decide to fight it out. The contest may result in a victory for one or the other, or else in a drawn match. If either wins a victory, it carries the individual, who has been a passive spectator of the struggle, along its unforeseen track. If they are even gamesters, nothing can be done until the arrival of reinforce-

ments. Even if the individual were aware of the moral value of the incentives, there would not necessarily be volition. The record of his observation would in that case be not simply that this or that spring prevailed, but that the more or the less worthy prevailed, or, as before, that they were equally powerful. Consequently volition must be taken to involve a purpose or the conception of some end.

But Intuitionists and Utilitarians, while agreeing that volition includes the knowledge of some end, would differ as to the character of the end, the Intuitionist declaring that everyone must actualise some kind of impulse or affection, the Utilitarian declaring that everyone acts according to certain conceived results. If our foregoing conclusions with regard to the nature of motives are correct, then the knowledge or belief that a certain incentive should be carried into act is in every way equivalent to the knowledge or belief that to make this incentive one's own will accomplish the best results. If the knowledge of a tendency be vague and general, then also the knowledge of the results of its realisation will be vague and general. Such a rule as 'Be benevolent' means both 'Give expression to a noble aspect or tendency of your nature' and 'Do that which will promote the general happiness'. It does not mean that in any particular case you must act from benevolence, for so to do might be to deprive your family or yourself of some necessity. Before it can be decided that in any given case it is right to act benevolently, account must be taken of the consequences of the act. The point of importance, however, is that the rule, no matter how general, implies a reference to general results, and that it is not possible to know an incentive or tendency of our nature without knowing as well the results of its issuing in an overt act. But some Intuitionists, of whom is Dr. Martineau, hold that it is possible to know the nature of incentives and to arrange them in a graduated scale of excellence, without taking into account the consequences of acts. Dr. Martineau further states that it is only when two incentives conflict that one is recognised as higher than the other. It is plain that the maxim 'Be benevolent' cannot conflict with the maxim 'Be prudent,' nor can 'Be compassionate' conflict with 'Be just'. It is only when a man must act in a specific way that there takes place any encounter between two general principles. Thus the introduction of strife between incentives, as the test by which to decide their relative moral worth, is simply a subtle way of introducing the knowledge of all the essential results of each of two definite acts. Since Dr. Martineau's *Types of Ethical*

Theory is in some quarters taken as an authority on the ethics of Intuition, I may be pardoned for noticing that he himself in the following cases virtually admits that a conflict of tendencies is not capable of disclosing their moral value. (a) Dr. Martineau admits that perhaps no part of his task is more difficult than to determine the controversy of the claims of the love of gain and the passions of antipathy, fear and resentment.¹ With regard to fear he further remarks: "Nor can we perhaps assign to fear, simply as such, a uniform value relatively to other springs of action. Fears cannot be appraised without reference to the worth of the objects feared."² (b) It is averred that the affection of sentimentality is "often saved from the taint of selfish indulgence of feeling by considerable remaining vestiges" of parental love and compassion. "When a hurt is received which springs from no malignity that calls for protest, an amiable temper may easily rise above the moral level of natural resentment. But when the evil inflicted is a wrong, no preference for peace can be accepted as an adequate ground for quietude."³ This signifies that sometimes sentimentality must be considered as higher than resentment, and sometimes resentment as higher than sentimentality. (c) The love of power is awarded a high position by Dr. Martineau; but he says: There "are, however, abuses (and, in comparison with its whole range, very rare ones, I believe) of a motive which, duly subordinated, has a legitimate sphere, neither narrow nor ignoble."⁴ Clearly, when examination is made of the impulse as such, no notice can be taken of the legitimate use or the abuse of it. To recognise a due subordination, or an abuse of the love of power, is to consider the objects upon which it is directed, and so to pass from mere incentives to definite acts. If another definition of the love of power be taken, namely, that it is "an undistinguishing intensity of the whole nature,"⁵ it is at once evident, that little, if anything, can be said of its moral value. (d) When the incentives of wonder and admiration are co-present in the individual, "there seems no reason for assigning to either impulse an authority superior to the other".⁶ Thus the question whether an individual should pursue the subject of art or science receives no answer from Idiopsychological Ethics, though it holds that the value of art to mankind may be very different from the value of science. (e) "With the keenness of compassion take into account the universal scope of

¹ *Types of Ethical Theory*, vol. ii., p. 181.² P. 184.³ P. 188.⁴ P. 194.⁵ P. 199.⁶ P. 203.

the affection, knowing no bounds but those of suffering, and its *duration* through the whole of our life, and these three features sufficiently pronounce its superior authority to the *provisional instinct* of parental love, though the latter, *during its season*, must sometimes be the more imperative."¹ It is here admitted that two springs of action change places according to their relative intensity, whereas Dr. Martineau had previously maintained that "from the pure psychological comparison of quality, the accessories of special intensity and external relations must be struck out".² (f) Here are three remarks upon what Dr. Martineau calls compound incentives: "Love of praise has a great latitude according as it is more or less qualified by social affection, and more or less select in regard to the spectators whose praise is coveted";³ "We cannot insert generosity at an invariable place in our list";⁴ and "The permissible cases of resort to falsehood cannot be determined without careful attention to the canon of consequences".⁵ Any one of these admissions is sufficient to raise doubts as to the value of a theory which is confessedly a failure just when it should prove its power to succeed. The enemies of Intuition need fire no guns when there are traitors in its own camp.

By observing the whole import of a motive we have found good reasons for concluding that Utilitarianism and Intuitionism are not two antagonistic positions, but merely two aspects of a full-orbed and completed theory. In a similar way it may be possible to reconcile the opposing claims of Egoistic and Universalistic Hedonism. It is doubtless true that any theory which affirms that a man necessarily seeks his own pleasure cannot furnish a substantial basis for a rule which bids him seek the good of others equally with his own. In other words, no theory which builds upon the notion that the individual is in essence a mere unit can logically enunciate the maxim that he ought to consider the well-being of society. On the other hand, it is equally true that no theory which declares that a man must seek another's good can in strictness deduce any rule whereby he may rightly provide even for his own bodily needs. Any theory which begins by counting man as a mere citizen and ignoring the potent fact of his individuality reduces each person to the level of an automaton. In either case, as the foundation is laid on a recognition of only half the truth, the superstructure must be partial and inadequate. But the opposition between Egoism and Universalism may be

¹ P. 206.² P. 182.³ P. 222.⁴ P. 226.⁵ P. 244.

removed by a more comprehensive estimate of what is implied in a motive. If our estimate of the origin and nature of the tendencies of man be taken as correct, then a tendency is both the result of the individual's way of life and a fulfilment of the promise of society. Strange, therefore, as it may sound, a person cannot be purely egoistic or purely universalistic, for in considering himself he must consider others, and also in considering others he must consider himself. This truth, which has the air of a paradox, may be given a more cordial reception if the discussion be freed of some technicalities of expression.

It seems clear that every man seeks some form of self-satisfaction. He who does his duty in any emergency thinks that by so doing he best realises his higher self. Some moralists prefer to say that he who does his duty through love of it conforms to the will of God. But the will of God is not something external to the agent; it is rather found in the superior authority of the higher course of conduct. Man in actualising the loftier tendency of his nature obeys the will of God. Evidently, then, he seeks in each act a particular form of self-satisfaction. None the less does the individual who follows the lower impulse seek to satisfy himself in some specific way. He who finds his pleasure in delicate tastes and odours, to the exclusion of higher interests, attempts to obtain some definite form of self-satisfaction. Again, the hermit who shuts himself away from what he esteems worldly occupations and enjoyments is not thereby living a life of mere negation, but is striving to actualise what he believes to be his true self. Even the one who mortifies his members, not because he thinks such mortification in itself desirable but because he imagines that by it he will secure greater pleasure in this world or another, evidently negates present satisfaction only that he may obtain self-satisfaction in the future. Manifestly, in strict accuracy, the forms of self-satisfaction sought must be as numerous as the individuals seeking. At the same time, for practical purposes, the number of these forms could be reduced to the number of types of individuals, on the supposition that, though individuals of the same type differ one from another, they yet present sufficient points of agreement to warrant their being classified under a common designation. It may be said, for example, that certain men find their highest enjoyment in the exhilaration and excitement of some athletic pursuit, others in the inspiring intricacies of business-life, others in the joys of social gatherings; others, again, devote themselves to art or literature; still

others find their highest satisfaction in the relief of the distressed. But some may be equally eager in several directions, while many have no strongly marked desire except that of providing for the welfare of themselves and family. Even those who occupy the higher seats of life are generally apportioned their share of cumbrous flesh, and are, in Plato's way of speaking, domineered over by the tyrant, to this extent at least that they must eat and drink. Remembering, then, that any division of men into classes or types is merely an approximation, we might roughly represent these types as coincident with the possible tendencies of human nature. But these bloodless types are not to be mistaken for living men and women, since a human being has the capacity to realise himself in many ways and cannot exhaust this capacity by any number of acts. Bearing this in mind, we may recur to the question—Is self-satisfaction the end of action? Different answers must be given according to the different constructions put upon the question. If self-satisfaction be the residuum obtained by abstraction from all particular forms of self-satisfaction, then it is never sought, because it is not, in any intelligible sense, the satisfaction of any possible person. In every act the agent seeks to realise that which satisfies him; and in this way the gratification sought is as precise as is the distinct motive of the particular agent. The satisfaction which is the product of abstraction, exactly because it is a mere generalisation, cannot be the end desired by any person. On the other hand, it might with equal truth be answered that an agent must seek self-satisfaction, if by it is meant the appropriation of a certain tendency of his nature. But, further, self-satisfaction may be apprehended not as an abstraction from particulars, but as that universal self-satisfaction which comprehends these particulars within itself. This self-satisfaction would lose its grasp of no aspect of man's nature, but would prescribe to each aspect its proper sphere, and might be construed as a complete life. Such satisfaction might be made an end of action. Leaving the further discussion of this point till we reach the question of right and wrong in conduct, we may turn our attention to some side-issues in connexion with any effort to reach satisfaction, and try to unfold some of the less prominent elements implied in a free act.

Every voluntary act implies in strictness a comparison of alternatives and a verdict; it implies, in short, a prior decision to act. It is true that in ordinary action the individual puts forth no very preceptible mental effort in reaching a conclusion, for the palpable reason that in every-day

life certain definite states of mind have been formed with reference to nearly all possible contingencies. It is implied in habit that the character of an act frequently done does not require the same minute inspection as that of an act never formerly done or done but rarely. But decision, though inconspicuous, is none the less present, and no decision is reached entirely without effort. No one accustomed to observe his own habits of reflection can be ignorant of the fact that the struggle to decide has two very different phases. It indicates an unrest which may be viewed as indissolubly linked on the one hand with the pain and on the other hand with the pleasure of self-assertion. In some natures the state of suspense seems to approach more closely to a pleasure, in others to a positive uneasiness; but both must be found in every nature capable of grappling with a mental difficulty. Secondly, when the decision is reached, two seemingly opposite results may again be observed. Conspicuous is the fact of pleasurable repose or the feeling of satisfaction at having reached a conclusion; yet there is also, more prominently in some cases but never utterly absent in any, the sense that the mind's genuine occupation is gone and that the weak piping-time of peace is made for intellectual sloths and peacocks. The feeling of dislike of inactivity is implicit in the feeling of satisfaction. This twofold character of a decision is perhaps illustrated practically by the current conviction that the best mental rest is a change of exercise, and may be one of the meanings of the following lines of Goethe:—

“Men are by much too fond of easy-going rest,
And very prone their muscles to relax;
So have I sent the devil, who with zest
Will stir the drones and follow in their tracks”.¹

But we are still in the dominion of pure thought as distinct from what is generally known as the dominion of volition. All that has yet been described might occur in a successful attempt to solve a geometrical problem. Whether or not there is latent in such an attempt an inner mandate the same in kind with that which requires for its fulfilment a change in the external world, it is plain that the solution of a problem does not seem to be shorn of its proportions without such external change.

¹ “Des Menschen Thätigkeit kann allzu leicht erschlaffen,
Er liebt sich bald die unbedingte Ruh;
Drum geb' ich gern ihm den Gesellen zu,
Der reizt und wirkt und muss als Teufel schaffen.”

—*Faust*, Prol., 97.

But when there is issued the inner mandate, which is not fully made up unless some bodily act takes place, then is entered the realm which is popularly considered to embrace the whole question of volition. To my mind too wide a breach has been made between thought and volition. What are in essence only two aspects of the same process have been viewed as two completely distinct functions. If the vital element of volition be self-determination, then volition must be present in the endeavour to solve a question in mathematics, or in any intellectual effort of any kind. But if we limit ourselves to inquiries that are admittedly ethical, solid ground is under foot when it is affirmed that, when an individual decides to act, his character is by his resolution at once "touched by a clearer purity or a fresh stain". Rage and lust are none the less rage and lust because they are impotent. Compassion for the poor is none the less compassion though it has no goods to bestow upon them. But another and a new problem arises when the agent seeks to actualise his desire. He wills the means in willing the end, but the means may be only in part under his control. The body may be more or less incapable of carrying into effect the intended act, and, even if the body be fully capable, the laws of nature, including the regulations of society, may intervene to prevent the act's fulfilment. The marksman desires to hit the centre of the target, but his eye may be untrue or his hand unsteady, and so the bullet may fly wide of the mark. Even though his hand be firm and sight keen, imperfections in the rifle, or a cross-current of air, or shifting light may spoil the shot. Murder may be in the heart of a man, but society may imprison him, and he can do no murder on stone walls or the unfeeling ground. Accordingly he who wishes to accomplish his act has often by patient practice and well-timed effort to reduce the chances of failure to a minimum. Every act of a man is the impress of his will on the outer world, or the rendering of the body and the inanimate world more obedient to his hest. A beginning is made with the random activity of the infant, which has to learn even the way to its own mouth, and there may finally be reached the rhythmical movements of the well-trained athlete or the almost unerring action of the skilled mechanic. In willing the means, the individual must come to a decision which, so far as it is a mere act of thought, is substantially the same with the decision to actualise a certain end. In the case of habitual action, deciding upon the means is not explicitly distinguished from deciding upon the end; but in the case of an unusual act the individual, while aware of the

end desired, may be in doubt as to the means for its attainment. Nevertheless, as the acts of decision are in the two cases formally identical, the decision to adopt certain means does not require separate treatment. But further, just as the mental effort was associated with elements of pleasure and pain, these elements are found associated with the bodily act also. Through mere motion of the limbs there arise pleasant sensations, the desire for which is one of the reasons for engaging in the measures of the dance ; but connected with mere motion is found also the sense of irksomeness to bodily effort. Likewise, when the means are realised, there is the satisfaction at having won a victory, which is yet tinged with the boding that the satisfaction cannot last, and the latent desire to escape from the rust of idleness. What is involved in the attainment of the end as distinct from the attainment of the means, or, in other words, what is implied in the securing of satisfaction, must yet be explained, in order that a full analysis of an act may have been made. This reopens the question as to the nature of the right end of action.

To return, then, from this rather lengthy digression, it may be noted that two distinct questions can be put with regard to the relation of Egoism and Universalism. First, it may be asked—Do people as a matter of fact seek self-satisfaction ? To this question the answer has been given, that people not merely may, but in a sense must, seek some form of self-satisfaction. Secondly, it may be asked—Should we seek self-satisfaction ? or—Is self-satisfaction in any form the right end of action ? It is a patent corollary from the answer to the first question, that this question also must be answered in the affirmative. At once there occurs a difficulty which may be put in the following terms :—‘ It is apparent that the satisfaction of hunger and the relief of a friend in distress are both forms of self-satisfaction, and it is further apparent that occasions may arise in which gratification of oneself in one way must be the denial of oneself in the other. Now, while no conclusion on the matter in hand could be reached unless particulars were given, yet the popular mind would at once say that, though the eating of food and the relieving of a friend were both in themselves right, yet, if the doing of one means the leaving undone of the other, no man of ordinary intelligence would have much trouble as a rule in deciding which ought to be done. But the philosophic principle that we ought to seek self-satisfaction is unable to indicate which of these two acts should be done, and in that case fails to include all that is found in an everyday

judgment as to right conduct.' This objection is of weight, as it calls attention to the fact that we can and do discern between right and wrong. How is it that ordinarily there is no trouble in discriminating between the good and bad in conduct? The Intuitionist sees no cause for disquietude here any more than elsewhere, and declares that man has a conscience which, in some inexplicable and final way, reveals the distinction between right and wrong. In so far as this declaration insists upon the fact that we do divide between good and bad conduct, it is valuable as reiterating the dictum of ordinary consciousness. As, too, it has been shown that a possibility of an act, whether the possibility be called instinct or impulse or spring of action, implies for a free agent the knowledge of results of action, the method of conscience is explicable as resting upon a long-hoarded and hard-won experience. Thus right and wrong have to do with an estimate of the consequences of an act; but we have not yet found a clue to the content of rightness.

It may be a help towards a solution of the question to ascertain first of all what right conduct is not. An instinct, it has been seen, involves a capacity of the individual, and also the silent but ever-present workings of the society of which the individual is a member. When a man satisfies his hunger, he no doubt seeks to keep intact his own physical nature; nevertheless the keeping intact of his own nature is, to some extent at least, the preservation of the race. Thus every act has a double reference implied in the nature of the individual who is separate from and yet one with his fellow-men. Every act, then, is the expression of the fact that an agent, on the one hand, is a truly independent person, and, on the other hand, has no existence apart from his community. Consequently, wrong conduct cannot in any sense be considered as conduct in which only personal and private ends are sought, since a full view of motive shows that personal and private ends as such have no existence; and right conduct is not that in which an agent ignores his own existence, for that a man should ignore his own existence is a contradiction in terms. While everyone must seek in some way his own satisfaction, he must perforce seek likewise the satisfaction of others.

Desires have been called self-regarding and other-regarding, but this distinction is popular, and ignores in every case an essential factor of a desire. When a man satisfies his hunger with wholesome food, his act is at once self-regarding and other-regarding, inasmuch as it has both a particular and a universal aspect. It is not correct to say that when

the individual is wrong in satisfying his hunger, he is merely self-regarding. Such a statement means only that one must at times regard society from a more adequate point of view than that of continued physical existence. It may be argued that the satisfaction of one man's hunger may result in the starvation of another. True ; but, first, that would not be the destruction of the state unless he were a Brobdingnagian and all others Lilliputians ; and, secondly, and more seriously, his own existence is still the possibility of the continuance of the state. It is absurd to make the division of acts into right and wrong equivalent to the division of desires into self-regarding and other-regarding. Another objection may be raised to the effect that, while acts may be neither purely self-regarding nor purely other-regarding, the individual may wholly refuse to consider the other-regarding aspect, and, therefore, may have purely selfish desires. It is a sufficient answer that, as the individual is unthinkable except in relation to some society, his own satisfaction must mean the realisation of some form of social existence. A purely selfish person is an impossibility, as he would be the embodiment of mere negation, or the personification of absolute chaos. The truth is, not that an individual in considering himself may or may not consider others, but that in considering himself he must consider others. No man can realise a mere aspect of self-satisfaction. The analysis of an act reveals that, though the agent were, in popular language, selfish, the act must of necessity be other-regarding, and even though he were, in popular language, unselfish, the act must be self-regarding. A purely unselfish act would be the total negation of the individual, and a purely selfish act would be the total negation of society ; and each of these is an impossibility.

But we are not yet out of the difficulty. Though it be granted that an adequate and rounded view of self-satisfaction serves to prove that the end is neither purely self-referring nor purely other-referring, yet this does not aid in making plain what in any given case is the right end to adopt. It may be that I cannot negate my connexion with society any more than I can negate my individuality, and thus a right act may be demonstrated to be a destruction of neither oneself nor others ; yet this gives no information as to any positive characteristic of right conduct. So long as there is simply a great number of ends of action, which seem to have no other bond of union than that each may be embodied in an act, there can be no way of deciding whether any one end is morally preferable to any other, and thus no room

is found for the conception of rightness or duty. Accordingly we are led to ask—Is there an end of action which is connected with all other ends of action in that it is an end, and yet distinct from them in that it is never a means? What, it might be otherwise asked, is that incentive which is in one sense identical with and in another sense exclusive of every other incentive? Some philosophers have chosen to ask—In what way can the love of virtue escape the stigma that it is the love of nothing in particular, and lay claim to being a definite motive? Others have preferred to ask—Is there such a thing as objective or universal righteousness? All are looking for that principle which will give life to the various forms of satisfaction. Consequently these questions reintroduce the general question—What is meant by self-satisfaction?

Already it has been seen that every man seeks some definite way of satisfying himself, whether he be a voluptuary, a sportsman, a family-man, a bookworm or a saint. It was further seen that, since self-satisfaction as an abstraction from all specific kinds of satisfaction was unthinkable, it could evidently never be sought. Moreover it was decided that self-satisfaction might be considered not as the abstraction from but as the comprehension of the various limited kinds of satisfaction, and that this comprehension was not a mere conglomeration of impulses, but comprised a determination of each incentive to its due position. This satisfaction is a truly objective end, and yet may be sought by the individual. In striving to realise it each man is seeking to actualise, not the higher aspect of his nature as opposed to the lower, but the highest aspect as the harmony of all his manifold tendencies. Thus the complete realisation of that end would be the complete establishment of harmony between man and man. From this point of view every agent who acts simply to secure some definite and limited form of satisfaction is asserting his individuality at the expense of a rational society, and is to that extent wrong whatever may have been the nature of the act. He has substituted a means, however lofty, for the life-size character. He who gratifies his passions to the detriment of higher interests obtains a satisfaction, but a satisfaction of an imperfect, not the complete and ideal, self. He who sacrifices his life for the good of others likewise obtains a satisfaction, much more worthy than that of him who yields to his lower nature, but still not the satisfaction of the ideal life. It is not meant that men should not die for others or for their country, but that such an act is not the realisation of the

full-formed ideal. If the identification of oneself with one's country means the severing of family ties and death on the field of battle, then such action may be sweet, but it is not in the highest sense rational. It asserts a higher aspect of man's nature to the total suppression of the lower, and that is logically as absurd as the reverse. The question may be viewed in another light. Every specific form of satisfaction may be considered both as an end and as a means. It is proper, for example, to make the sustenance of physical life an end of action, but to fail to see that it is a means also is to substitute the physical for the whole nature. So is it with any other particular form of satisfaction. It is evident that he who devotes himself to science or the doing of good so unreservedly as to neglect his own physical well-being defeats his own object. Generally, then, the constitution of any specific satisfaction as an absolute end is the exaltation of a single incentive, which is *per se* only the equal of any other, to the position of sole authority, and could as rightly be termed self-destruction as self-realisation.

How then is it possible to get above the region in which spring of action strives with spring of action? Is there a higher region in which strife yields to concord? It is manifest that, unless the race is to cease to exist, care for one's own bodily needs must be at times the paramount duty. Though the cultivation and development of one's æsthetic, mental and moral gifts are loftier employments than the eating of food, yet at certain times the eating of food must be pronounced right as against even them. But the satisfaction of the bodily man need not be made in opposition to higher interests. On the contrary, the due satisfaction of a man's physical wants is the condition of his developing any higher aspect of his nature. "Whether therefore ye eat or drink, or whatsoever ye do, do all to the glory of God." Attention to the relatively lower man is not opposed to but rather an essential factor of the glorification of God. Hence care for the body, when its whole implication is understood, must in fitting seasons not only take precedence over every other motive, but also be in a sense the only adequate actualisation of those motives which are esteemed of higher moral value. It follows that the appeasing of hunger and quenching of thirst are frequently lifted out of their usual relative position to other possible acts and given an absolute position. When this occurs, the satisfaction of the physical nature is right in a sense in which the adoption of no other incentive is right, and there is obtained the true conception of absolute or objective righteousness. Accordingly, the

actualisation of any tendency can be considered from two points of view. First, the incentive in question may be viewed as merely one of a large number of brother tendencies, and the actualisation of such a tendency might be from such a standpoint relatively right. Secondly, the tendency may be viewed as that which is not separate from but comprehensive of all other tendencies, and from this standpoint the actualisation of the tendency must be absolutely right. Every act which is relatively right must be absolutely right also. The difference between relative and absolute rightness is really only in the point of view.

Attention has been directed almost exclusively to the satisfaction of the physical nature, but conclusions in every way concomitant with the preceding results will be obtained by a brief examination of the desire for wealth. Everyone knows that the unlimited indulgence of appetite means the decay of vitality, and so recognises the necessity of restraint. Thus the preservation of the individual is coincident with the preservation of some kind of society. But the due satisfaction of appetite can be most readily obtained by him who has acquired some wealth. Consequently, out of the lower desire, which may be called in general terms the desire for the satisfaction of appetite, arises the higher desire, namely, the desire for some form of wealth. The desire for wealth is higher than a mere appetite, because the desire for wealth implies that the subject of it recognises the necessity for the provision of means for his own continuance. Thus he who desires wealth reflects upon the fact that he has certain bodily needs, and by that very act declares that he is not fully represented as one who has merely the capacity to eat food when hungry or drink when thirsty. He knows that in a sense he remains the same whether he is hungry or not, for it is he who is hungry and he who is satisfied. Thus the individual recognises the fact of his own essential permanence, while his body undergoes alteration. The desire for wealth is one product of this recognition, as it is the desire for the permanent possibility of the satisfaction of appetite. Hence the desire for satisfaction through the possession of wealth on the part of any person includes the endeavour to place society, though it should embrace only himself and family, on a more stable foundation. Yet, since any man's desire for wealth, owing to his limitations, finds no sufficient outlet unless he be on even terms with other persons of aspirations similar to his own, savages of a low type are intelligent enough to admit both the common ownership of rivers and hunting grounds, by all at least

within some more or less clearly defined boundaries, and generally also some rude form of exchange or barter. Therefore, he who desires the satisfaction which accrues from the attainment of property must seek to preserve a community of independent individuals, and to keep inviolate all the regulations of ordinary trade. So it is found that the question of property comes to involve the question of regulations or laws, or it is man's declaration that he is not merely an individual but a man of trade as well. It must carefully be noted, however, that law is not introduced as a restraint of an external authority upon the will of the individual ; it is in essence the higher nature of man asserting itself over the lower. Self-satisfaction from this point of view, therefore, would involve the due acquisition of property or wealth, and the due recognition of the rights of others. Further, it is frequently right to carry into fulfilment such satisfaction, right relatively in that it has equal claims with any other incentive, right absolutely in that to fail of it would be to fail of the fulness of the stature of perfect manhood.

The truth, that each incentive has for a time an unlimited jurisdiction is the more easily seen the higher is the incentive estimated. He who, for example, devotes himself to the art of painting must, in order to realise his end, take some heed to his physical condition from the point of view both of health and muscular development. The artist will be unable to body forth his imaginations if he has not a certain and incisive touch. The history of art might be said to indicate, if not to prove, that wonder, if this incentive be the basis of art, creates its masterpieces only hand in hand with reverence. Thus the full value of wonder is not evoked in those cases where it has to struggle with other impulses. Only when it unites into an organic whole all other impulses does it don the purple and gold. So, too, any spring of action, whatever be its nature, when it is in the higher sense of the term 'imperative,' or when it is taken at its moment of completeness, has a jurisdiction over all the rest. He who actualises each incentive only when it is thus imperative or absolutely right, realises at once the limited and the universal satisfaction. He who fails to actualise this impulse, no matter what other impulse he may prefer, may realise some limited satisfaction, but in so doing gains the image at the cost of the reality.

It can scarcely pass unnoticed that the preceding explanation of right conduct has some slight resemblance to the doctrine of Kant, that an individual should so act that the maxim of his will may hold good as a principle of universal

legislation. As every motive implies both a self-reference and a reference to others, and as the completion in act of any motive is the effort of the agent both to preserve his existence and to perpetuate some form of society, it is evident that the principle of any act is suitable for universal legislation. Nevertheless, as the form of society which an agent may seek to constitute may be relatively low, so, although the ground of the act has a universal bearing, the act may not be the fulfilment of what is called duty. It has still to be asked—Is the principle of the agent's will a right principle? Is the form of society sought by the agent the highest or most rational form? If the act is absolutely right, according to the signification given above to absolute rightness, then it is the actualisation of a truly rational society. Further, as the act is the outcome of a tendency which is not isolated but rather gives every possibility its rightful position, this act is likewise the ratification of a society which gives the fullest scope to every power of each individual. The truest conception of absolute rightness can be gained only by a patient study of the relations of civilisation to the varied capacities of man.

There might naturally occur two objections to the foregoing account of the end of action. First, it might be urged that if the desire for self-satisfaction in some form is said to be the right motive, and a universal satisfaction is the right end of action, then the true end is really some kind of feeling, and the true ethics is only a disguised form of Egoistic Hedonism. There is force in the objection in so far as it directs attention to the fact that no end of action could claim permanent recognition which did not emphasise the connexion of the agent with the results of his own act. But when it is remembered that every effort of an individual after self-satisfaction implies in its very essence the desire after some form of union with his fellow-men, it is evident that here the right end is not a mere accident of an abstract individuality. Secondly, it may be objected that the preceding exposition assumes the possibility of conceiving of the absolutely right. The objector may insist that, if an adequate knowledge of objective righteousness is possible only when the highest form of society is thoroughly understood, then our knowledge of universal right must be incomplete for two reasons: first, because the state has not yet assumed its final form, and secondly, because the whole value even of our present life and institutions has not been comprehended. It might be further urged that, if the grasping of absolute rightness or goodness means the complete fruition of all our

capacities, then absolute goodness is not attainable, as our highest attainments are only the possibilities of grander things. The possession of what is fondly imagined to be absolute righteousness is only the key which opens the door to vistas of beauty hitherto unimagined. It is manifest that this second objection also is of considerable weight. It does away with the idea that the realising of absolute rightness is the entrance to a saint's rest, or an immortality of inaction. Moreover, it accentuates the truth that the whole duty of man cannot be summed up in any number of convenient formulæ, but must expand with the expanding race. If, then, the objection means that absolute goodness can never be completely realised, its validity cannot be impugned. Nevertheless, the imperfect and temporary seizure of the absolute is none the less a seizure of the absolute because it is imperfect and temporary. It is not true that, since absolute goodness cannot be attained as a definite state or disposition, no approach whatever can be made to such a disposition. Rather is it true that every identification of oneself with a right course of conduct is a progress towards a completed character. Man or the state at every onward step attains the absolute, but this very attainment reveals the absolute as yet unattained. Thus the truth of the objection is incorporated into the theory when the difference is made clear between the potential and the actual absolute. The potential absolute is the incitement to all mental and moral progress; an actual absolute may well be conceived of as a contradiction in terms.

V.—DISCUSSION.

THE PSYCHOLOGICAL THEORY OF EXTENSION.

By Dr. EDMUND MONTGOMERY.

"There is surely no more legitimate or even imperative task than to attempt to explain how body comes to appear as spread out in what we call space"—with these emphatic words the Editor in No. 51 urges the importance of a task which I also have long considered paramount in the endeavour to establish a scientific interpretation of conscious experience. It is undoubtedly a great, if not the greatest, desideratum of psychological science to find an explanation in mental terms for the externality and extension of our bodily percepts. The intuitive distinction between an inner and outer world, between a Self and a Not-self, rests entirely on those peculiar perceptual appearances which detach themselves from the fleeting stream of our mere intensive consciousness as steadfast forms of bodily extension. And as all mental, and therewith perceptual, differentiations are wrought within the unitary sentiency of one and the same conscious individual, we should be able to discover what elementary experiences underlie the trenchant distinction between the extensive and intensive modes of consciousness.

I think with the Editor that the fundamental experience underlying our consciousness of Extension has to be "referred to the tactile base". And I also agree with him—though in a qualified sense—that such consciousness of extension is grounded on our perception of body. It is not grounded on the pure intuition or the psychological construction of *empty* extension. The elements of our perception of space I believe to be given to us in objective experience, along with what constitutes our elementary perception of body.

But is it not certain that to perception our own body is also an object among objects? However intimately connected with our own Self, it also belongs out-and-out to the objective world. Through whatever means we become aware of it, it always appears to us as an external existent spatially determined. And it seems to me that it can be shown that the groundwork of all space-perception is laid through direct awareness—one may say direct *perception*—of the tactile surface of this body of ours.

It is through specific data, given at the tactile surface, that the objective world becomes differentiated within our sensorial medium from subjective modes of sensibility. All the different perceptual characteristics that make up the tactile figurations of the objective world are conditioned by corresponding differences of data arising at the tactile surface. This being so, it must be a datum given at the tactile surface that constitutes the element of space-perception.

Now, I contend that with the consciousness of the simplest sensation arising from any kind of skin-impression, localisation, and therewith space itself, is immediately given; and that all body- and space-perception is only a further modification and complication of such simple tactile experience. It is undeniable, that during the sensory stimulation of mere heat, cold, pain- and pressure-spots at the sensitive surface, the simple, specific sensations aroused thereby are felt, or—to express it more precisely—are *apperceived* as distinctly localised affections. Along with the specific sensation, its position is consciously realised. And this experience is, as such, an indivisible mental fact. Skin-impressions of whatever kind are always felt, at once, as occurring at some definite point found to form part of the tactile surface. Consequently, the quality of the sensation does not play an essential part in the localisation.

It is quite true that qualitative differences can be distinguished in the tactile feelings of different parts of the skin, and that these qualitative differences are essential to our awareness and recognition of the different parts of our body; but they are not indispensable to our immediate awareness of the exact position of skin-impressions. To become convinced of this, we need only with closed eyes cross our fingers in odd ways, and lay them thus on a table without paying attention to their relative positions. A prick received on the crossed end of one of the fingers will be immediately and accurately localised, while it will be found puzzling and sometimes even impossible to recognise which finger was pricked. By dint of the immediate awareness of the position of skin-sensations—an awareness awakened in us without objective tactile exploration or the aid of any other objective sense—we are enabled to realise the external form of our body, and the spatial relations of its parts. It will be well to insist upon the importance of these simple experiences; for, properly verified and corroborated, they will positively settle the pending question as to the elements of our space-perception.

Of course, in mental *reflection* the experientially indivisible occurrence can be further analysed. We can distinguish in it the apperceptive focus with its attitude of attention, the line of direction separating the apperceptive focus from the sensation, and the sensation itself at the other end of the line of direction. These three factors, into which the simple and direct psychical experience can be analysed, are moreover found to correspond pretty accurately to three different parts of our complex and roundabout conscious realisation of the physiological basis of the occurrence: the apperceptive focus, to some centre in the brain; the ideal line of direction separating the apperceptive focus from the sensation, to the real or physical line of direction connecting the brain-centre with the stimulated sensory spot; and the sensation itself, to the sensory spot undergoing stimulation.

It is of fundamental importance to recognise that such correspondence in *consciousness* of the direct psychical experience to

its otherwise ascertained physiological basis exists only by dint of pre-established harmony. The direct psychical and the round-about physical realisation are not—as often maintained—one and the same fact of nature viewed under different aspects. The sensory spot as physical percept is not the same fact of nature as the apperceived sensation arising from its stimulation; the physical line of direction consciously realised in a roundabout way, not the same fact as the ideal line of direction immediately realised; the brain-centre that may be consciously realised as an objective percept, not the same fact as the conscious focus of apperception. Nor are the physical percepts, as such, in any way the cause of the direct psychical experience. The direct psychological localisation of sensations is a fact *sui generis*, not to be derived from our consciousness of physical localisation. I do not perceive a sensation as definitely localised because I may, if I choose, also consciously realise a sensory spot at the same place.

Now it is evident that this immediate psychical localisation of sensations contains already the essential elements of space-perception—namely, externality, direction, distance and position.

The perception of surface-extension, which is generally conceived as the most elementary spatial fact, but which under the aspect here indicated might speculatively be conjectured to be realised through a mental synthesis of felt points already localised—this surface-extension is, however, likewise immediately given in direct apperception, and not synthetically constructed by any activity which may be called a mental process. A stimulated surface of skin is directly apperceived as an extended sensation. I mean thereby that the sensation is thus felt as extended in one and the same *simultaneous* act of apperception. Kant teaches, on the contrary, that, in order to apperceive extension, we have, by force of spontaneous internal activity, first to draw the line of extension; that is, we have to construct extension by running in imagination *successively* from point to point.

Apperception of extension conceived in this manner becomes an immensely complicated mental process; for, after drawing the extended line in successive moments of activity within the lapsing medium of time, we have then to reintegrate the whole by dint of memory, conceiving its elements as simultaneously co-existing in the "synthetical unity of apperception". It should be clear that, in this way, we can attain only to a *conception*, never to a *perception*, of extension.

And here we are brought face to face with a fundamental dilemma in the interpretation of experience—a dilemma which has ever divided and is still dividing philosophers into two opposite schools—*viz.*, a school which makes sensible experience subordinate to conceptual knowledge, and a school which believes conceptual knowledge to be subordinate to sensible experience.

No doubt, if it were true that it is through a process of mental synthesis, and not through the immediate apperception of sensible positions and extended sensations, that we realise what appears

to us spread out in space, then our percepts would all be out-and-out constructed by spontaneous mental activity. And sensible experience, being thus really a mere product of thought-activity, could have not only no relation to a world beyond our skin, but no relation to our skin itself, or indeed to anything external to and independent of the synthetical activity of our intellect.

Kant's fundamental mistake here was to believe that we receive sense-impressions *passively*; that the domain of sensibility constitutes an inert, indeed an insentient, non-intellectualised province within the realm of mentality. With him even percepts or "appearances in space and time" had no necessary, inevitable connexion, no organic unity with the act of their perceptive realisation. It is obvious, however, that a percept is, as such, always perceived. Active perceptive realisation, on the part of the individual having the percept, is of the essence of its perceptual nature. Even a sensation, to be at all felt, has likewise to be actively perceived, *i.e.*, consciously realised within the focus of apperception. In fact, we react against sufficiently powerful sense-impressions with the full activity of our apperceptive faculty. Still it is not this centrifugal activity which originates the specific sensations or percepts.

The fundamental distinction here to be drawn lies not between passive perceptual appearances and their conceptual realisation and classification through mental activity, but between the direct *perception* of things and their indirect *conception*. Both these modes of apprehension are active functions; the former being more vividly and constrainedly, the latter more comprehensively and freely, active.

It is true, when a considerable extent of skin is simultaneously stimulated, we can fix the central point of our sphere of apperception first on one spot and then on another of the extended sensation. And we can also realise more distinctly the extent and form of the stimulated surface by successively running over the different parts of the extended sensation with the central point of our apperceptive focus. But most assuredly we do not *create* the extension by such activity. We merely explore it, and enhance thereby our apprehension of it. The apperceptive focus plays here the part of an ideal eye or finger-tip. And it is this centre of our perceptive and explorative faculty that controls, as its chief physiological instruments, our eye and tactile organs.

The apperceptive focus of tactile sensations falls very nearly together with the visual focus. Indeed, we always feel a sensation connected with muscular movements of the eye when we pay close attention to skin-sensations. But, as we can pay attention to and accurately localise sensations occurring at parts of our body never perceived by the eye—for instance, at the back of our head—the focus of tactile apperception cannot entirely fall together with the focus of visual apperception.

In our search after the psychological elements of space-perception, we have not found that sensations connected with

muscular activity play a very prominent part. They seem involved only in the apperceptive phase of the perception. That which is apperceived as occupying space, or rather as determining position and constituting extension, turned out to be simple skin-sensations. These sensations or apperceived affections, by appearing to us externalised, localised and definitely extended, must be held to belong already to the objective order, and to contain therewith the psychological rudiments of body-perception. Yet, by being immediately apperceived as psychical phenomena inalienably attached to our own self, they do not possess the movable independence nor the objective resistance of complete bodily percepts.

When we press, say, the blunt end of a pencil upon the quietly resting tip of our fore-finger, and fix our attention on the sensation of pressure, we apperceive the sensation, as such, distinctly extended, and vaguely recognise the shape of a circle; which shape becomes, however, quite distinct when the pencil is whirled round without changing its position. So long as the finger is kept perfectly still, no *sensation* is received which renders us conscious of the presence of a pressing body. But the instant we assume the attitude of physical exploration by pressing upon the stimulating object, instead of being merely pressed upon, the bare circular sensation becomes transformed into the sensation of a circular body. We apperceive the presence of body detached from the bare sensation of pressure. We recognise something capable of yielding us specific percepts when examined with our organs of physical exploration.

In apperceiving bare tactile sensations, our activity consists in an inward resistance and reaction against the encroachment of stimulating influences. In apperceiving bodily presence by touch, our activity becomes an aggressive exploration of the stimulating influences—an exploration which the latter are now felt to resist. The awakened percept in this case includes the peculiar sensation called objective resistance. And we find that this sensation comes to us when under certain conditions we venture upon the physical exploration of the immediate sensorial percept. In a roundabout way we then make out that this peculiar experience of objective resistance, which is transforming so suddenly and strangely the apperception of a bare extended skin-sensation into the apperception of a congruent, space-occupying body, is due to muscular activity.

Our muscles are not only motor organs: they are also sensory organs of a specific kind. This is experimentally proved by their power of estimating differences of weight even more accurately than the skin. The principal peculiarity of muscle-sensation lies in the fact that it is an activity not only peripherally but also centrally stimulated. The central stimulation, unimpeded, would produce movement; the peripheral stimulation arrests the movement. In the sensation of objective resistance the peripheral and the central stimulation encounter each

other along the line of excited activity, and measure themselves against one another. Unimpeded muscular action remains unfelt. Inactive muscle does not appreciate resistance. It is the active muscle peripherally impeded which feels resistance, or rather which furnishes the sensorial data of such feeling.

We may look upon voluntary muscular action as the physical aspect of apperception. And this centrally initiated activity becomes an objectifying process by making use of its instruments of physical exploration for the purpose of gaining a more thorough experience of directly apperceived sensations or other more complex modes of perceptive awareness. It becomes furthermore a process of objective construction when it transforms, by means of its peripheral organs, mere ideally conceived perceptions into real perceptions, utilising for the purpose sense-stimulating material found ready at hand. As sensory organs, used by our faculty of apperception, our muscles impregnate tactile percepts with the specific sensation of bodily resistances; as motor organs, they realise its ideal mandates in the objective world.

The further momentous part played by muscles and their central connexions conjointly with tactile organs *during physical exploration* is of the highest psychological as well as physiological interest. I have endeavoured to elucidate this in my article on "Space and Touch" in Vol. x. of *MIND*, and have at present nothing more to add.

Hempstead, Texas, 1st August, 1888.

NOTE.—Dr. Montgomery's contribution to the discussion of this question is very welcome, and the more because it comes so promptly from the far-off region where his abode has long been fixed, but which is not too remote for him to watch everything that goes on across half a continent and a whole ocean. Reserving other remarks on what he has written till it is seen how far the discussion may proceed later on, I will now only say that I wholly agree with him in the importance he attaches to the sensitive skin as the first of our objective percepts and medium of all farther external perception. It is there as a sort of permanent foot-rule—but spread out continuously in all directions with most varied graduations—by which at once to apprehend and measure-off the extension of all objects coming into contact with it. I venture to differ from Dr. Montgomery, however, on the point of whether, for its use in this way, we are bound to suppose its perceptive faculty to be native and original, and not rather acquired by a process of gradual mental construction,—or, if not properly acquired by the individual *ab initio* (which it is hard to see how we can ever know), still appealing to the psychologist as a problem to be set and solved scientifically. And if I did not, in No. 51, refer to this feature of our perception of Extension, it was only because it did not seem particularly involved in the question then taken into view, *viz.*, whether the extension we first perceive is not of extended body rather than of empty space. I certainly hold that the first extended body we come to know of with any precision is the one we end by calling our own,—and there are very good psychological reasons for this.

EDITOR.

HEGEL AND HIS RECENT CRITICS.

By R. B. HALDANE.

The history of literature shows that upon the whole justice has been meted out with a fairly even hand to philosophers. If a great thinker has received too little recognition in one period, he has generally bulked too largely in the public estimation in another. And if he has exercised an excessive influence during his lifetime, he is tolerably certain to be altogether underestimated at some time afterwards. In the long run, the exaggerations alike of merits and of demerits become corrected as the name to which they relate ceases to be a party-badge. Until, however, there is no longer a motive on the one hand for abusing all that is associated with that name, and on the other for declining to admit its connexion with error even in matters unessential, a fair verdict on the services of him who bore it to the cause of knowledge is hardly to be looked for.

Hegel seems to me to belong too nearly to the present generation to be fairly dealt with. While he was alive his philosophy was regarded as a revelation. For some time past it has been the fashion, if not to deny that there is any merit in it, at least to regard with grave suspicion all those who make the admission that it has influenced their ways of thinking. The merits of Hegelianism are in short still a party-question. And this is scarcely to be wondered at. For Hegelianism has been used by its founder, and still more by his disciples, not merely as a point of view from which to criticise other modes of thought, but as ground upon which to place props for speculations in both ontology and theology. This circumstance may afford good ground for blaming individual philosophers; it cannot justify the inference that, because some of these props are rotten, therefore the ground on which they have been placed is likewise rotten. And yet this is just the inference which recent critics of Hegel, such as Mr. Balfour and Prof. A. Seth, would appear to wish to have us draw.

The purpose which I have ventured to set in front of me in what follows is twofold:—to endeavour to indicate what it is that some who believe in much of Hegel's work think that he has done, and not less to indicate what these same people think he has not done; to define in outline the claim on his behalf, and to repudiate a great deal that is attributed rightly or wrongly to him, but unquestionably wrongly to the Neo-Kantians. What I complain of in the recent criticisms referred to is that they have sought to fasten on the Neo-Kantian school in this country doctrines which have been professed only by certain of its adherents, and have ignored what is its distinguishing feature.

Mr. Balfour has given us (MIND ix. 73) a definition of Neo-

Kantianism which is substantially sufficient: "The members of this school are bound together by the common conviction that the solution of the larger problems of philosophy is to be sought along the path which was opened out by Kant, and further explored by Kant's German successors". In other words, it is a similarity in method rather than creed which binds the members of this school together. Now that method I take to be capable of being described very shortly. It accepts Kant's criticism of Hume. But it goes further than Kant in asserting that not only can we not go outside the closed circle of consciousness, but that there is no outside which has really any meaning. All that is, is for—not the self which is a particular object in space and time, nor yet any transcendent self, but—knowledge. And this is asserted not as a metaphysical or dogmatic statement, but as the result of that same new question which Berkeley put to himself. Now the great advance which Hegel made upon Kant was in the results he got by turning knowledge to the investigation of its own nature. This result lay not so much, as it appears to me, in the rejection of the doctrine of Things-in-themselves, or even in the development of Kant's doctrine of the Categories, as in the recognition that those features of experience which Kant relegated to the *Critique of Judgment* and to the ideal region of Ethics were just as much part of experience as the Categories of Kant themselves. Real experience was limited for Kant by the possibility of expressing its relations in space and time, and consequently such apparent phases of it as organisation and adaptation had to be relegated to the regions of unreality. It may be true that one result of these and the like points in the *Critiques* is that, as Prof. Seth points out in his *Hegelianism and Personality*, the Thing-in-itself of Kant is quite different from a mere ontological construction, and is really the indication of a deliberately recognised limit to the scope of his method. It is probable that Kant has been a good deal misunderstood on this point. But it is equally true that, whether Hegel did or did not afterwards go on to erect into a Divine Existence a synthetic Unity, which was with his predecessor a principle adopted merely because apart from it experience was inexplicable, it was not necessary to Hegel's theory of knowledge that he should do so, nor was it in any way implied in his rejection of the Thing-in-itself. What is essential in Hegelianism is its mode of investigating knowledge itself. What philosophy has gained from Hegelianism is a demonstration of the mischief which arises when categories which are applicable in a certain way are indiscriminately applied in every other. It has taught those who believe in it, or at least they ought to have learned, not to look for the self which makes experience possible under a category of substance which is proper only for objects in space and time, nor on the other hand to rest content with the expression 'subject' without assigning to it a meaning. And its warning against current assumptions

and metaphors extends not only to philosophy but to the metaphysics to which men of science are so often unconsciously a prey. Hegel may have been wrong in his statement of the relation of the categories of teleology to those of mechanism. But it cannot be right simply to assume that all the phenomena of organisation must be reducible to mechanism, or capable of expression in relations of space and time. Again, for example, this method has shown new reasons for doubting the application of the category of Cause to the experience of Volition, and consequently the foundation of the old controversy about free-will.

The service rendered by Hegel to philosophy is really of a negative nature. By teaching us how to criticise our categories he has rendered a lasting service not only to those who have been deceiving themselves in the search for the solution of what Mr. Balfour speaks of as "the larger problems of philosophy," but he has put people on their guard in almost every department of research. I admit that Hegel has, after the fashion of his time, gone further and professed to found a system that savours suspiciously of Ontology. But the point is that, though Hegel and the Hegelians may have committed themselves to this system, it is separable from what comes first in his work and has been adopted by the Neo-Kantians. I am not concerned to dispute with Mr. Balfour and Prof. Seth the force of their attack upon the metaphysical basis of Green's ethical system. Not only Green, but also Hegel himself, appear to me often to fall into the very fault which they are continually condemning—the indiscriminate use of metaphors as the foundation of inferences which, on their common principles, are illegitimate. The theory of knowledge becomes, in their hands, over and over again transformed, as Prof. Seth rightly remarks, into a metaphysic of existence or absolute philosophy, in which a transcendental self, which for this theory has no meaning excepting as the implicate of all experience, is hypostatised first into an absolute subject, and presently into an absolute cause. If anyone were asked to indicate the kind of contribution which Hegelianism (in the restricted sense in which the Neo-Kantians adopt it) has made to philosophy, reference might be made to Mr. F. H. Bradley's article on "Reality and Thought" in *MIND* No. 51. Mr. Bradley, like many other sober-minded people, would probably not care to be called an Hegelian. But his essay, though it bears on every line of it the mark of independent thought and work, appears to me to be a piece of the purest Hegelianism which has been produced for some time past. His problem is to ascertain the nature of the reality which there is in the object of knowledge over and above ordinary knowledge itself. The question is, he justly says, not whether the universe is in any sense intelligible, but whether if you thought it and understood it there would be any and what difference between your thought and the thing. He agrees of course that thought and fact, in the ordinary sense

of thought, are not the same. But his analysis leads him to the conclusion that what constitutes the difference is not the presentation of some element itself of a foreign nature on which thought works, for such a presentation and such an object he finds alike meaningless, but the fact that thought does not as we find it in our experience exhaust the predicates of the subject of its judgments or present these contents in the form of individual existence here and now.

"The object of thought (says Mr. Bradley, p. 380) aims at possessing the whole character of which thought already has the separate features. These features thought cannot combine satisfactorily, though it has the idea and even the partial experience of their complete combination. And, if the object succeeded in its aim, it would *become* reality; but it would cease to be an object. It is this completion of thought beyond thought which remains for ever an Other. Thought can form the idea of an apprehension, something like feeling in directness, which contains all the features desired by its relational efforts. It can understand that, in order to attain to this goal, it must get beyond relations. Yet it can find in its nature no other way of progress. Therefore, to reach its end, it perceives that this essential side of its nature must somehow be merged, so as to take in the other side. But such a fusion would force it to transcend its present self—how in vague generality it does apprehend; but how in detail it cannot understand—and it can see the reason why it cannot. This self-transcendence is an Other, but to assert it is *not* a self-contradiction."

Mr. Bradley gets at this result in his own way and in his own language. He has retraced the steps which Hegel first took, and carefully scrutinised the ground anew. But the pilgrim carries the same staff. The passage I have quoted, and indeed the whole article, might have been written by any Hegelian, whether of the left wing or the right. For it depends on what will remain in Hegel after the world has ceased to dispute about his metaphysics and theology,—the new method which he elaborated for the investigation of the contents of consciousness. Outside that consciousness we cannot and need not get. And we need not and we must not assume the existence in any ordinary sense of an absolute intelligence in which thought and its object would be one and the same. Hegel having got thus far did go on further and develop a systematic exposition of the nature of such absolute intelligence. But with this further portion of his system Neo-Kantianism, as such, is not concerned. Kant declined to identify the logical unity of thought with a divine or creative self; Hegel was under no greater necessity of making the identification. In consciousness he found thought as we know it confronted with a reality which never could be expressed in terms of any judgment of such thought. It might be the only way of explaining this otherness to refer it to the difference between thought as we find it in the individual and an ideal kind of thought, but it was not necessary to the method, or even a legitimate consequence of its application, to identify this ideal with Divine Existence. What-

ever Mr. Balfour and Prof. Seth may say, this identification is *not* the central tenet of Neo-Kantianism. If reference is to be made to the works of Green, his Neo-Kantianism must be looked for in the *Introduction to Hume* rather than in the *Prolegomena to Ethics*.

Turning to Prof. Seth's book, what I complain of is not merely that he has ignored what is characteristic of Neo-Kantianism, but that he has represented it as insisting on the worst features of the superstructure reared not merely by Hegel himself but by Green. It may be quite right to attack Hegel for having called his Absolute the legitimate outcome of Kant's Criticism. It may be quite right to show that Green gets to his Universal Spirit only by an abuse of metaphors. But for the rest the book is misleading. One would have expected the author of the essay on "Philosophy as Criticism of Categories" to have been most careful while condemning what was bad to separate out and defend what was good in the source of his own inspirations. And yet it is only at the end of the book, in the concluding words of a chapter which contains a lecture to the gallery, that Prof. Seth has anything approaching to a good word to say for the Hegelian method. He is a Neo-Kantian himself, excepting, indeed, where he seems to hint that Things-in-themselves may be resuscitated in the form of Monads; not, it is true, a Neo-Kantian in the sense of maintaining the doctrines which he associates with Neo-Kantianism, but in the sense that, in common with Mr. Bradley and Green, he in reality bases his method entirely on that which Hegel elaborated out of the critical method of Kant. Prof. Seth has done well to cut himself adrift from Hegel if by this is meant the ontological developments of Hegel's results. But he would have done better if he had distinguished in Hegel the method from its applications, and not thrown, as he seems to me to have done, the mind of the philosophical public into confusion by declining to say that he is neither Hypothetical Dualist, nor Natural Realist, nor disciple of Lotze—nor defender of any of these ways of looking at things to which his own methods allow but short shrift. So far as I can judge, the real position of Neo-Kantianism in this country has not been touched either by Prof. Seth or by Mr. Bradley, who is its friend at heart, or by Mr. Balfour, who is only a half-hearted enemy. I believe that it will yield further and valuable results; not, it may be, in pure metaphysics, but in such investigations as Mr. Bradley has himself undertaken, and above all in the hands of those scientific specialists who are becoming alive to the necessity of a criticism of their Categories.

VI.—CRITICAL NOTICES.

A Study of Religion: its Sources and Contents. By JAMES MARTINEAU, D.D., LL.D., Late Principal of Manchester New College, London. 2 Vols. Oxford: Clarendon Press, 1888. Pp. xx., 417; vi., 410.

This work and *Types of Ethical Theory* are not only the latest but the richest fruits of their author's long and eminent literary life. They supplement all his previous writings, and put us in possession of his whole system of thought on ethics and religion. They give us the truest measure of his power, and show us the farthest reaches of his attainments in the two regions of philosophy in which he has laboured for so many years with such admirable devotion and to such conspicuous effect. They have arrived late, but not in the least too late. The burden of his more than eighty years doubtless weighs on their author's bodily frame, but it has certainly not impaired his powers either as a thinker or a writer. In neither work are there any traces of octogenarian feebleness or Nestorian prolixity. They are long, but no one will wish them to have been shorter. The thought is clear, flexible and penetrating; the feeling fresh, serene and elevated; the style bright, firm and graceful.

This *Study of Religion* may even seem to some to have appeared too soon. It would have made so admirable a Gifford Lecture that one may well regret it has not appeared as such. More generations than the present may wait in vain to see the Gifford Lectureships produce anything so good.

While the reviewer is far more inclined to praise the book than to criticise it, as the former would be useless work and the latter is the task in hand, he will sacrifice pleasure to duty, and be as critical as his sense of truth will allow him to be towards a treatise with the general tenor and argument of which he is cordially in sympathy and agreement.

The title of the book cannot seem accurate to those who do not accept Dr. Martineau's definition of 'religion'. Those who have adopted the wider conception of it at present prevalent will naturally expect to find in the work much which is not there. To them the title will suggest a study of religion as a fact of experience, an analysis and exposition of it as it manifests itself in the individual mind and in society, a psychology of religion. This they will not find. The work is essentially an inquiry into the theoretical truth or logical validity of religion—an exposition of the ultimate rational grounds of religious belief and practice—a discussion of the bases and a defence of the conclusions of Theism. It deals with the psychology of religion only in so far as it must take account of certain cognitive elements necessarily

implied in all conceivable apprehension of religious truth. Dealing with these to a considerable extent does not make it a study of religion itself, purely and simply as a phenomenon, or prevent its being essentially and throughout an attempt to vindicate religion by showing that it rests on objective spiritual truth. It is to be included among works belonging to the department of Theological Apologetics. In more general terms, it is not an investigation in the sphere of positive religious science, but in that of metaphysical religious philosophy.

The foregoing observations seem necessary to indicate the precise character of the book under review. They are, of course, not meant as an objection to it. Dr. Martineau had every right to give us this book and not another. And although there may be more original work to be accomplished in the psychological than in the apologetic department of theology, there can be no doubt that those fundamental problems of Theological Apologetics with which Dr. Martineau occupies himself so strenuously are of vast significance. On their solution it must depend whether religion is to be regarded or not as more than a mere historical and psychological phenomenon, whether the beliefs which it contains are legitimate or illusory.

The 'Introduction' deals with two questions—What is Religion? and, Why Ethics before Religion? The former Dr. Martineau answers offhand, without any analysis of the relevant facts or comparison of his definition with them; without any of the historico-psychological investigation into the nature of religion which we have of late become accustomed to expect from those who undertake to tell us what religion is. He begins thus: "The word 'Religion' is here used in the sense which it invariably bore half a century ago; and a reader whose conceptions are cast in the moulds of that time will know what to expect from an inquiry into its 'Sources and Contents'". He proposes, accordingly, to understand by it—"belief in an Ever-living God, that is, of a Divine Mind and Will ruling the Universe, and holding moral relations with mankind". Then he devotes the section to a criticism of sundry "proposed rhetorical extensions of the word Religion," and especially of that "watering down of its meaning, so as to dilute it to the quality of the thinnest enthusiasm," given us by the distinguished author of *Natural Religion*.

Now, on this it may be remarked that a few sentences on the definition of religion are fortunately the only sentences in Dr. Martineau's book which show any traces of his having written for readers "whose conceptions are cast in the moulds of half a century ago". It would have been strange if it had been otherwise. Throughout the whole period he has been thinking and writing beyond the comprehension of such readers, and has got far beyond touch of them now. They will take care to find teachers less likely to break the old forms in which their thoughts

were moulded. Any definition of religion, however, which is merely a repetition of the old *modus Deum cognoscendi et colendi*, and which consequently identifies religion with theistic belief and worship, is antiquated by at least half a century, and by a half-century equivalent in such a matter to any preceding five centuries. The word Religion was not so understood by Latin classical writers. It has not been invariably so understood by philosophical writers ever since the Renaissance. And, although almost invariably so employed by divines down to nearly the last fifty years, it was with the great reservation and restriction implied in the admission that it either did not apply at all, or only, as some of them said, 'improperly applied' to false religion. What has led, however, to its general abandonment is undoubtedly its manifest inapplicability in those historical and psychological departments of theology which are mainly the creations of the past half-century. The distinction of true and false religion is fundamental in Apologetic and Dogmatic Theology, but it has no place or relevancy in Historical and Psychological Theology. For these last, false religion is as truly religion as true, seeing that for them the distinction between true and false religion has no significance, no existence. It is difficult to see how those who cultivate the comparative and psychological sciences of religion in a scientific spirit can be satisfied with any definition similar to that given by Dr. Martineau. The objection to them is that they exclude far more than merely "rhetorical extensions" of the meaning of the term Religion. They take no account of the greater portion of the undoubtedly real and historical manifestations of religion. They are only applicable to one of its forms. The adoption of Dr. Martineau's definition of religion would require whole departments of inquiry to be abandoned as non-religious, although now universally and very properly included among theological disciplines. At the same time, it must be admitted that the definition does scarcely any harm in Dr. Martineau's own book, or even in the first section of its 'Introduction'. The reasons which he adduces against what he calls "rhetorical extensions" of the term are fortunately not drawn from the definition of religion given but from the real nature of religion. Hence the validity of the reasons are not dependent on the accuracy of the definition. They seem strong reasons, and they are stated in a way which does them full justice.

The second section of the 'Introduction' is meant to be an answer to the question—Why Ethics before Religion? If the term Religion, however, be understood in the way approved of by Dr. Martineau, that is, as equivalent to Ethical Theism, the question can hardly be worth putting. Obviously, if there were no Ethics there could be no Ethical Theism. Obviously, Ethics must precede Ethical Theism. If, on the other hand, the word be understood in a wider sense, the question—Why Ethics before Religion? ought manifestly to be preceded by the question—Is

Ethics before Religion? But this latter question Dr. Martineau does not raise, and his reasoning in the section implies no answer to it. He shows how the moral consciousness of civilised man influences religious belief and feeling, and how these again react on the moral judgments and moral life; not in the least that Ethics precedes Religion either in fact or thought, history or theory. The relation between Ethics and Religion has never been proved to be one of sequence at all. Man is not moral before he is religious or religious before he is moral, inasmuch as he is equally both moral and religious by the very constitution of his nature. To trace how variously religion and morality have been related in different periods, stages and circumstances would be a vast task, but assuredly their relation would never be found to be that of before and after. Even moral and religious science have never stood to one another in so simple and narrow a relation as that. There are defects, therefore, in this section of Dr. Martineau's work. It is not so thorough and comprehensive an exhibition of the relations of morality and religion as he might have given us. Yet what is chiefly attempted in it is really accomplished. As an argument against those who would either represent religion as independent of morality or morality as independent of religion, it is as effective as any general statement could well be. The inter-relations of Ethics and Religion considered in their whole extent either as historical manifestations or as systems of belief and reflection are not traced, but certain links of connexion between them of a kind specially necessary to be recognised in a study of the sources and the contents of theistic faith are clearly indicated.

The philosophical defender and exponent of Theism in the present day inevitably finds himself under the necessity of dealing with the doubts and negations of Agnosticism. The necessity is in various respects a hard one. The great majority of mankind are quite incompetent to decide on the merits of a discussion as to the limits of human knowledge. The discussion once raised cannot be confined within any definite sphere. Agnosticism as to religion is but one species or phase of Agnosticism, and it can only be either refuted or confirmed through the refutation or confirmation of Agnosticism in general. The Theist, however, is at an obvious disadvantage in not being allowed even to produce his reasons for Theism until he has propounded and established a theory of cognition in all its forms, and implicitly or explicitly disproved all agnostic theories. Then, the subject is so large that a brief treatment of it must be unsatisfactory. The eloquent, or at least rhetorical, generalities which the ordinary reading public accepts as appropriate to the consideration of Agnosticism are worse than useless. A thorough theoretical investigation of it implies the setting forth and defence of a whole system of Philosophy as the Criticism or Science of Knowledge. And even the most elaborate theoretical investigation must in itself appear

vague and inadequate. Agnosticism in general and in the abstract can be as little attacked as defended with success. War against Agnosticism is unreal and must be resultless unless its chief systems, at least from Hume's onwards, be individually dealt with.

Dr. Martineau devotes Book i.—“The Limits of Human Intelligence considered”—to dispel that “despair of religious knowledge” which is in the present day the chief enemy to religious faith. He adopts in it a mixed method of procedure, partly historical and partly abstract, partly criticism of individual systems and partly criticism of general propositions. There are four chapters in the book. The first, on the forms and conditions of knowledge, is substantially a brief statement of Kant's theory of knowledge; the second is “an appreciation” or criticism of that theory; the third treats of “absolute and empirical idealism” as represented by the systems of Fichte, Schelling, Hegel and Schopenhauer, and of the explanations of belief in the external world given by Helmholtz and J. S. Mill; and the fourth deals with the doctrine of the relativity of knowledge, or rather with certain sceptical modes of expressing the doctrine. There is a lack of consistency and a still greater lack of comprehensiveness in this mode of treatment. Hence this first book appears to the present reviewer to be the one considerable portion of the work which, while containing excellent pages, is unsatisfactory as a whole. It deals only with fragments of the subject professedly discussed, and with these, if by any rule of proportion, according to one far from visible. The cause is, no doubt, to be referred chiefly to the difficulty, or even impossibility, of treating it according to any consistent and comprehensive plan within the limits of a hundred pages.

Perhaps, a beginning should rather have been made with Hume than with Kant, as the former was the true initiator of the Agnosticism which has prevailed throughout the present century, and, on the whole, a greater and a more consistent Agnostic than Kant. Dr. Martineau represents at a length which may seem relatively excessive Kant's doctrine of Analytic and Synthetic Judgments, his account of Mathematical Judgments, and his view of the tests of the truth of Synthetic Judgments. This is, however, because he substantially agrees with them, and rejects only the Kantian conclusion that the *a priori* forms of sense and thought are merely subjective, and hence that they and all their contents are only mental representations due to the constitution of our sensibility and intelligence. Dr. Martineau admits the subjectivity of space and time, but, like Trendelenburg, denies that this prejudices their claim to objectivity. They are, he thinks, both subjective and objective. “Nothing,” he conceives, “stands in the way of our trust in the *bona fides* of our intuitive witnesses to a world beyond the contents of our own consciousness.” More than a trust, however,

he does not hold that we can attain. The reviewer cannot here do more than indicate the measure of his dissent from these positions. He does not accept Kant's mode of distinguishing cognition into *a priori* and *a posteriori*, holding that in all cognition there is an *a priori* and *a posteriori*, and that although Kant often touched this truth he never firmly grasped it, and hence classified cognitions in a way inconsistent with it. He admits that Kant, through his distinction of judgments into analytic and synthetic, was enabled to state the fundamental problem of knowledge in a general and suggestive form, and to recognise that knowledge is an essentially synthetic process, yet he deems the distinction itself as enunciated and illustrated by Kant to have been hopelessly confused and erroneous. Dr. Martineau seems to regard it as not needing justification. Renouvier, Stirling and others have tried to explain and defend it. While granting that it has a limited logical validity, the present reviewer agrees with those who find themselves unable to accept almost anything which Kant has said about it, and who have never been so ably represented, perhaps, as by Ausonio Franchi in his remarkable monograph on the subject—*Sulla Teorica del Giudicio*. Again, Dr. Martineau accepts Kant's doctrine that time and space are necessary but subjective forms of knowledge. To escape the difficulty, however, of regarding them, "with all their infinitude, as lodgers within us," he has recourse to the Trendelenburgian hypothesis that notwithstanding their proved subjectivity we may believe likewise in their objectivity. How they are to be distinguished as subjective and objective he does not explain. Are there two species of space and time? Are there two essentially different ways of getting at the knowledge of space and time? Are space and time both necessary and contingent as well as both subjective and objective? How can we pass in cognition from the space necessary to thought to a space outside of that space and of the thought in which it lodges? It is not by Trendelenburg's device that the implicit Agnosticism of Kant as to space and time is to be met, but by insisting on receiving real proof for the dogma that space and time are subjective. They are so in no intelligible and non-sophistical sense. We can neither know nor conceive of any space or time supplied to the mind from within. We know them only as objectively given to thought, not as subjectively contained in it. Kant assumes necessity in knowledge to spring from subjectivity. In reality the subjective is only a source of contingency. No form or condition of thought is in thought, otherwise it could not form and condition thought. We know only the time and space in which we are. Without undervaluing the elaborate attempts which have been made in this and other countries to elucidate Kant's doctrine of time and space and other necessary forms of thought, we may reasonably hold that they fail to show that he has proved the subjectivity of these forms. Kant's theory of belief in an external world seems to us

to be estimated too favourably by our author. The theory has the merit, indeed, of recognising the complexity of the act or process of perception ; but it is incorrect in tracing back the belief in externality exclusively to causality. The axiom of causality—Every change has a cause—presupposes time and space, for change is only an event in time or space, and, therefore, it presupposes the externality or objectivity of time and space. If space and time be only known as objective we shall hardly be content, as Dr. Martineau seems inclined to be, to regard our recognition of externality as a mere belief or a trust which, being deeper than reason, can dispense with reason. We must, on the contrary, deem the belief in it belief in directly apprehended truth—the trust in it trust in the reason which is the basis of all reasoning.

Despair of religious knowledge being the subject of book i., we scarcely expect to find the third chapter devoted to "Absolute and Empirical Idealism". It seems as if it would have been more relevant to have treated of Post-Kantian Agnosticism, which has already had so many phases and stages. Idealism is not necessarily either gnostic or agnostic, but is more apt to be the former than the latter. Belief in the subjectivity of time, space and other forms of thought inevitably involves Agnosticism ; belief in their objectivity in no way implies the rejection of Idealism. Idealism has not definitively conquered Realism, but still less has it been conquered by it. Agnosticism is not more the enemy of Idealism than of Realism. It is the enemy of all philosophy. The first section of the chapter brings before us the forms of Idealism associated with the names of Fichte, Schelling, Hegel and Schopenhauer. The pages devoted to Schopenhauer are the most satisfactory. Fichte's Idealism is represented as having been originally a merely Subjective Idealism. Dr. W. L. Courtney's expression of doubt as to the correctness of this view is held to be unwarranted, and Schelling is credited with having led Fichte to perceive that the Ego of personal experience could not be the Absolute. On this point Dr. Martineau has undoubtedly the general opinion of the historians of philosophy on his side. The truth, however, is, we believe, on Dr. Courtney's side. Fichte from the first sought philosophic unity of principle, and never was so absurd as to suppose that it could be found in the multitude of personal individualities or in any one of them. The implicit first of the *Wissenschaftslehre* was not the Ego of personal experience, the finite, intelligent, personal Ego, but the infinite and impersonal Ego, which is the ground and source of individuality and consciousness ; and the explicit last of the doctrine was the universal, impersonal, moral *Ordo ordinans*. Schelling gave currency to the notion that the Doctrine of Science was a Subjective Idealism, and it was plainly his interest so to represent it. Whether he altogether believed his own representation has been doubted. If he did, it only proves

what Fichte maintained, that he had never been able to understand the system for which he undertook to provide a substitute. The relation of Schelling to Fichte was quite other than is commonly supposed. The cause of the success of Schelling's misrepresentations, and of the consequent prevalence even at present of erroneous views as to the nature of Fichte's philosophy and its relations to subsequent philosophies, is simply that the *Wissenschaftslehre* is among the most difficult systems to master which have appeared in the whole history of philosophy. Hardly anything has tended so much to mislead the world as to the significance of the development of modern German philosophy as the popularity unhappily acquired by the formula that Fichte taught Subjective, Schelling Objective, and Hegel Absolute Idealism. In the second section of the chapter under notice the examination of J. S. Mill's psychological theory of belief in an external world (pp. 98-112) must be indicated as particularly worthy of consideration by those who have adopted the theory. To almost all who have not it will appear a conclusive refutation. It is certainly a keen and vigorous piece of criticism.

The fourth chapter discusses the doctrine of the relativity of knowledge in the three forms of (a) *Homo mensura*, (b) All we know is phenomena, and (c) the Unknowable. It is especially in this chapter that philosophical readers must feel that Dr. Martineau has done himself injustice in not allowing himself more space within which to work. The chief position from which the reviewer would expressly dissent is that, while the doctrine of relativity does not preclude our knowing noumenal properly understood, it is not consistent with our knowledge of the Absolute. This should not be conceded. The affirmation of the relativity of knowledge excludes knowledge of the Absolute only when carefully defined, as it was by Hamilton and Mansel, with a view to secure the exclusion, and when that is done all knowledge must logically be held to be merely phenomenal as well as exclusively relative. Only the unconditional conditions of thought can properly be held to be noumenal, and these may all with equal propriety be held to be absolute. The Absolute understood as that which exists out of all relation is, of course, inconsistent with the relativity of thought, inasmuch as it is inconsistent with thought itself, pure absurdity; but the Absolute has none the less a very important and consistent meaning, and when so understood it is inclusive of all that is unconditioned and noumenal, the light of all reason and ground of all intelligibility, and the source and complement of all that is relative and phenomenal. Dr. Martineau, adhering to a definition of the Absolute which it is strange that anyone should ever have adopted, does well not to profess any belief in the Absolute. His position is thus much more reasonable than that of Mansel, who defined the Absolute in a similar, although somewhat less objectionable manner, proved that, understood in that sense, it could not be true, and

yet held that the Absolute was to be believed in in some entirely unintelligible sense. Had Dr. Martineau, however, not elected to mean by the Absolute an absurdity, he would not have separated, as he has done, the Absolute from the Noïmenal, but would have seen that they must stand or fall together.

Book ii.—“Theism”—forms more than half of the work. It comprises 280 pages of the first and 140 pages of the second volume. As regards far the larger portion of it, the reviewer is so entirely at one with the author that he has no objection or criticism to offer. This is especially so in the case of the sections relative to Teleology. Few who regard the universe as a teleological system at all will fail to admire the manner in which Dr. Martineau has expounded and vindicated their faith. Excellent as his whole discussion of this subject is, those parts of it which treat of the moral difficulties in the way of acceptance of the theistic inference from the teleological conception of the world, the difficulties involved in seeming waste, in suffering and in sin will, probably, be generally felt to be pre-eminently impressive and valuable, from the rare depth and truth of spiritual insight, the wealth and weight of moral wisdom, by which they are characterised. It may safely be said that among British authors, with the exception, perhaps, of Cardinal Newman, no one could have written so worthily on these the chief obstacles to theistic belief.

To the metaphysician the most interesting part of the second book will be the first five sections. Of these the first is the fundamental one, seeing that it deals with the idea or meaning of causality—the primary principle, according to Dr. Martineau, of Theism. It is argued therein that, “except as the seat of change, or partner in a change, no ‘thing’ can ever play the part of cause”; that “prior phenomenon” does not answer to the significance of cause; that the dynamic idea clings to causality throughout, yet does not complete it; and that cause is ultimately identical with determining Will. Old in substance as the reasoning in support of these positions necessarily is, the freshness of the form in which it is invested makes it look almost original. And, in fact, a considerable amount of new and individual thinking is embodied in it. The acute yet appreciative examination of Prof. Laurie’s account of the evolution of the causal idea may be referred to in proof, and is in itself especially noteworthy. At the same time, it by no means commends itself to the reviewer as a conclusive, or even on the whole successful, refutation of the theory examined. Without committing himself to any unqualified acceptance of the doctrine of percipience set forth by Prof. Laurie, he cannot doubt that it is entirely true in exhibiting percipience as a complex process, and not as the single unanalysable act of seizure of the object which Dr. Martineau imagines it to be. Psychological scrutiny seems clearly to reveal that percipience is much more like “a secret pocketful of logical

small change" than like "a comparatively empty purse, with all its wealth in a single coin". That in the consciousness of perception there is a realisation of causation in as perfect a form as is disclosed anywhere else in experience must, we think, be admitted, although causality may make its presence also distinctly felt elsewhere. That the idea of causation can only find its complete satisfaction in voluntary exertion, in intelligent self-determination, appears to be a very reasonable thesis, while that causation is to be identified therewith seems to be a very questionable one. That the idea of cause is only derived from the consciousness of will pure and simple is an hypothesis to which there are various objections, and especially one which may well relieve us from the necessity of producing any other, namely, that pure and simple will is unreal, unknown, an abstract illusion of metaphysicians, not a fact of consciousness. In order to find cause in will alone we must first find will alone, and this is precisely what we never find or can find. Will is not experienced, and cannot be conceived of, in and by itself. It exists and is known only in and through other properties of mind, other constituents of consciousness, from which it is inseparable. It has no being by itself, but subsists only in the organic unity of mental life, and, therefore, only in indissoluble conjunction with feeling and thought. If there were any such thing as will pure and simple it would be will in which there was no self-determination or choice, no view to an end or purpose; it would be kinetic and nothing more, the lowest instead of the highest species of causation, and necessarily inadequate to raise us to the apprehension of a Divine Causal Reason. Whether conclusive or inconclusive, however, Dr. Martineau's criticism of Prof. Laurie's theory of 'cause as a dialectic percept' is vigorous and interesting, and may, it is to be hoped, lead the propounder of the theory to give a somewhat fuller exposition of it than is to be found in *Metaphysica Nova et Vetusta*.

The second section is a searching examination of the attempt recently made by Prof. Royce to dispense with the principle of causality in the theistic argument, to eliminate will from the idea of God, and to represent the Divine solely as 'an all-inclusive thought'. But on this section, as well as on the others relative to Will, and on those on Right, the second of the two great supports of theistic belief, as set forth by Dr. Martineau, our limits will not allow us to offer any remarks.

Book iii. is headed "Review of Opposing Systems". Why? The only "opposing system" of which it treats is "Pantheism". The rest of the book—the second chapter—is a general discussion of "Determinism and Free Will".

Theism, understanding thereby Monotheism, and Pantheism are terms often so applied as to be not opposed, or even distinguishable. The word Pantheism, in particular, is wonderfully protean, so that the systems called pantheistic are seldom purely

pantheistic, and are often more monotheistic than pantheistic. It is far from easy to draw true distinctions between Pantheism and Theism; far from easy to state precisely wherein they ought to be held opposed. According to Dr. Martineau, the fundamental opposition, "the exact theoretical distinction," between the two systems, "lies between *All-immanency* and *Some-transcendency*". The theist admits immanency, or the presence and operation of God in the laws and events of nature, yet maintains God to be "*somewhere more than the contents of nature*, and to *overpass them* in His being, action and perfection". "The pantheist, on the other hand, makes no return for the concession to his favourite conception of 'immanency'; he can allow no 'transcendency'; the life with which he charges the universe has no actual or possible existence but in the aggregate of finite things; it speaks its whole being in the cosmic laws." Is this, then, a valid distinction? No. Immanency and transcendency denote a distinction which has only reference to the finite. The Infinite cannot transcend itself. God as infinite cannot transcend His own immensity and eternity, His own being and perfection. It is only the finite which can be transcended, and whatever does not transcend the finite, or is *all-immanent*, must be itself finite. Hence affirmation of the distinction drawn by Dr. Martineau virtually amounts to representing Theism as the doctrine which defends the infinity of God, and Pantheism as the doctrine which contends for His finiteness. But this representation is entirely untenable, whether considered from the theoretical or the historical point of view. It is not more a characteristic of Pantheism than of Theism to teach that God does not transcend the finite; is *all-immanent*; "has no actual or possible existence but in the aggregate of finite things". Dissent from Dr. Martineau on this point, however, need not prevent our admiring the general excellence of his discussion of Pantheism, and the striking beauty of many of the pages comprised in it.

The chapter on "Determinism and Free Will" is one which cannot be submitted to review in this merely general notice, but which may well afford matter for separate consideration in future numbers of MIND. As it is written from the libertarian standpoint, objection to it may be expected to be forthcoming both from necessitarians and critics. In some of its pages Dr. Bain, Mr. Shadworth Hodgson and Prof. H. Sidgwick are primarily and especially interested.

Book iv. is on "The Life to Come". It treats of death in its physiological, metaphysical and moral aspects, setting forth under the last heading, as "vaticinations of intellect," "vaticinations of conscience" and "vaticinations in suspense," the rational grounds of belief in immortality with great beauty and force. As the rational grounds of the belief have certainly not been, in most lands and ages, the chief causes of its prevalence, we could, of course, desire to have had the latter considered as well

as the former, and to have had the relationship of the causes and the reasons in some measure exhibited. Our desires, however, are apt to be very exorbitant, and perhaps Dr. Martineau has done wisely not to undertake the two investigations. This may very probably be a case where the apophthegm of Pittacus—*τὸ ἥμισυ τοῦ παντὸς πλεῖον*—is applicable.

Dr. Martineau is to be cordially congratulated on having produced a work of such rare merit on the most interesting of all subjects.

R. FLINT.

Spinoza. By JOHN CAIRD, LL.D., Principal of the University of Glasgow. ("Philosophical Classics.") Edinburgh and London: W. Blackwood & Sons, 1888. Pp. 315.

It has already been noticed (MIND No. 50) that the scope of Dr. Caird's book differs from that of the other volumes of the series of "Philosophical Classics". The limits assigned him have led to the author's omission of his account of Spinoza's life and letters, "besides other parts of his plan to which special reference need not here be made". It is impossible not to feel regret at this omission. In addition to the events of his life (for a record of which we are referred to Mr. Pollock and Dr. Martineau), there are many other questions about Spinoza—such especially as his attitude to the religious problems of the day and his contributions to Biblical criticism—on which Dr. Caird's views would be read with the greatest interest. Perhaps these may still see the light in some other way.

But Dr. Caird's plan differs from that of the other volumes of the series in something more than the omission of all account of the philosopher's life and minor writings. The book is not so much an introduction to Spinoza as a critical estimate of his philosophy, and will probably be found to be of greatest value by those who are already in some degree familiar with their author. Beside what has been already done—especially by Mr. Pollock and Dr. Martineau—in making Spinoza known and elucidating his doctrines, Dr. Caird's contribution has a place of its own. It fixes attention on Spinoza's central doctrine, traces its origin and estimates its value, and, with this always in view, gives an exposition of his philosophy in which no essential feature is left out of account and the difficulties and inconsistencies of the theory are traced to their source.

It should be said that the point of view is made clear throughout, and is frankly Hegelian; reference being frequently made to "later philosophy" for the solution of the problems, expressed and implicit, of Spinoza's thought. That these solutions are really adequate and satisfactory is indeed not made out by Dr. Caird; perhaps not meant to be made out. But he is successful in indicating the appropriateness of his point of view.

The negative nature of the finite, and the question—in Spinoza little more than a puzzle—of its relation to the absolutely infinite being, call for an explanation of negation or of not-being such as Hegel offered and as is quite absent in Spinoza. This point of view is enforced, especially against the attempt to put a naturalistic interpretation upon Spinoza's thought. We may, indeed, so "define 'Nature' as that it shall include both finite and infinite, the multiplicity of individual things, and the principle which gives them unity. If we mean by the universe all reality, then to say that there is nothing outside of it, that nature or the universe is all, is only an identical proposition." But if 'Nature' be taken to mean, as it commonly does mean, the sum of individual things, or collection of finite existences, it is evident that, in this sense, it does not correspond with Spinoza's view of the universe, or exhaust the constituents of knowledge. His opposition to the Scholastic doctrine of 'universals' is only one side of his theory. "For him the individuals of ordinary observation are as much unrealities, figments of the imagination, as the abstract essences of the schoolmen." Their isolation is dissipated in the intellectual apprehension of their essential nature, which involves the idea of the most perfect being. The motive of Spinoza's philosophy is not to be found in natural science, but "in his moral and spiritual aspirations," and in his endeavour "to rise above the illusoriness and unreality of the finite".

Dr. Caird's introductory chapters on Spinoza's predecessors—the mediæval Jewish philosophers, Bruno and Descartes—are in keeping with the plan of his work. They do not add much to the still vexed question of the development of Spinoza's thought in his own mind. But they bring out with clearness and precision the contrast between his leading doctrines and those of his predecessors, especially the writers of the Kabbala, and Maimonides.¹

The key to Dr. Caird's interpretation of the *Ethics* is given in his discussion of Spinoza's relation to Bruno (p. 89):—

"We shall find that Spinozism is, from one point of view, the ambiguous result of two conflicting elements—a self-identical, undetermined substance which is all in one, and a world of finite individualities, each of which has a being and reality of its own. It is the obvious intention of the author to bring these two elements into the unity of a perfect system—to find in Substance the origin and explanation of finite existences, and also to bring back all the individualities of the finite world into unity in their relation to the one infinite substance. But the

¹ With reference to the latter, a slip of the pen on p. 66 may be noticed. It is there said that "if any positive reference to him can be traced in Spinoza's writings, it is in the passage . . . in which he speaks in a somewhat slighting tone of some faint anticipation of his doctrine of the relation of the attributes of thought and extension to the divine substance". Dr. Caird is thinking, of course, of Spinoza's *philosophical* writings. Maimonides is frequently quoted by name and criticised in the *Tractatus theologico-politicus*; comp. cc. v., vii., xv.

relation between the two elements is only asserted, never demonstrated. The absolutely undetermined is, by its very definition, precluded from going forth out of itself into a world of finite determinations; and if we start from the latter, they can only be brought back to the former by the destruction of their finitude, and their absorption in the infinite all."

The position thus taken up at the outset gives to the whole exposition the character of a criticism. Nor, as it seems to me, can Spinoza's view, even on the most fundamental points, be made clear except critically. Two different conceptions of the nature of infinite or ultimate being are struggling in him for expression; and the exigencies of his thinking make him oscillate between them. As Dr. Caird puts it, he passes constantly "from the notion of substance as the negation to that of substance as the affirmation of all possible determinations". It is this double-sidedness of his doctrine that has led to the divergent interpretations of his philosophy—especially of his theory of the attributes; and one of the chief merits of Dr. Caird's volume is the clearness with which he recognises both lines of Spinoza's thought, and the thoroughness with which he follows out those lines and traces his author's transition from one to the other,—a transition of which, as he says, "it is easier to discern the motive than to understand the logic". The ambiguity is most striking in the doctrine of the attributes, in which the one substance appears under a multiplicity of aspects. On the one side this diversity is regarded by Spinoza as purely subjective, relative to the finite intelligence. But this view does not fully represent Spinoza's thought. The incompleteness of the interpretation becomes obvious at once when we remember that the finite intelligence is itself a mode of the attribute of thought. If we insist upon treating the whole of Spinoza as an expansion of the text *Omnis determinatio est negatio*, we shall have to follow Erdmann in reversing Spinoza's own method of treatment, and making the attributes depend on the modes. But the very same difficulty attaches to the explanation of modes. From the one point of view, they are mere fictions, illusory "creations of the abstracting imagination". But fictions need explanation as much as realities; and from the other point of view the finite is recognised by Spinoza as only partly negative, as also involving "the idea of the eternal and infinite essence of God". This element—the essence as distinguished from the existence of the individual thing—lifts it out of the limbo of mere negation; and it is this positive element which plays so important a part in Spinoza's psychology and ethics as the "self-maintaining impulse" by which every individual thing tends to persist in its state of being. We are equally far from the mere identification of definiteness with negation in the doctrine of infinite modes by which Spinoza seeks to bridge the gulf between the infinite and finite, not only "by introducing the element of self-determination into the idea of the infinite, but also, from an opposite direction, by elevating the finite world into a *quasi*-infinite".

The view of Spinoza's central doctrines thus maintained throughout makes way for a valuable criticism of his moral and religious theories. The way in which Dr. Caird traces how the parallelism of thought and extension is lost in the richer content of the attributes of thought, how the apparently egoistic theory of practice is transcended when the self-maintaining impulse is seen to seek the realisation of a self "whose essence is reason and the knowledge and love of God," and how Spinoza passes from his view of the illusoriness of the individual to a conception of the individual mind as becoming free from the bondage of the passions and attaining immortality with the disappearance of the illusion of time—all this may not be absolutely new, but it obtains a new value as it harmonises with and completes the design of the author's critique of Spinozism.

W. R. SORLEY.

L'Idéalisme en Angleterre au XVIII^e Siècle. Par GEORGES LYON, Ancien élève de l'Ecole normale supérieure, Professeur agrégé de philosophie au Lycée Henri IV., Docteur ès lettres. Paris : F. Alcan, 1888. Pp. 481.

The present contribution to the History of Philosophy—a branch of study which is now being cultivated with great success in France—not only has a special interest for English readers, but is in itself an excellent piece of work. Its purpose is to trace from the beginning the movement of English thought which in the 18th century culminated in the idealistic theory of the external world; the systems of individual thinkers being expounded only so far as they are phases of this movement. Accordingly, the author neither confines himself to English names nor to the greater names among Englishmen. For the origin of the idealistic movement in England, although there are prolegomena of "subjectivism" in Hobbes (pp. 51-6), has to be traced back to Descartes. Malebranche, again, had more influence in England than in France, and by him Cartesianism had already been developed in the idealistic direction. The first chapter, therefore, is devoted to Descartes, and one of considerable length (c. iv.) to Malebranche. The idealistic theory, when it had been definitely put forth by Berkeley, first gained disciples in America; so that American names also have to be considered. And, of course, not the least important part of any continuous history of a philosophical movement must consist of expositions of the theories of minor thinkers. The author's study of these has been so thorough that he gives a chapter to Richard Burthogge, and one to the American Samuel Johnson—names, it may be safely said, which are known to few English philosophical students. Adequate accounts are, of course, given of Norris and Collier. Taylor has a place in chapter v. as a representative "proselyte of Malebranche". The last chapter (c. xi.) is devoted to Hume, and has for its purpose to show how

Berkeleyan idealism was continued by the "phenomenalism" of the great sceptic.

M. Lyon brings out very clearly the nature of the influence of Descartes in England. Descartes' true philosophical successors in the 18th century, he contends, were Englishmen. In France, it was not the 18th but the 17th century that really deserved the name of "the philosophical century," so far at least as the metaphysical and speculative part of philosophy is concerned. What was required in order that the idealism latent in Cartesianism should emerge was independent thinking from the Cartesian starting-point; and in England, where Descartes had from the first enthusiastic admirers but no strict disciples, the requisite degree of independence was found.

The relation for which M. Lyon contends between Descartes and the English philosophical movement that started with Locke may be taken as established. The author, however, underrates the importance of Locke in the movement. Locke, as he sees, misapprehended Descartes' doctrine of innate ideas (p. 57); and, as he acutely points out in discussing a criticism of Green (with whose Introductions to Hume he is well acquainted), the unsatisfactoriness of Locke's utterances as regards the external world is due to confusion of thought on the philosophical question, and not at all, as Green says, to the external world being "the crux of empiricism" (p. 63). Thus he is led to seek the origin of the clear philosophical theories of Berkeley and Hume elsewhere than in Locke. Berkeley, as well as Collier, he tries to derive from Malebranche, though he points out that Berkeley repudiated, while Collier acknowledged, the relationship (p. 250). Again, he seeks to attach Hume not only to Berkeley, but directly to the Cartesian tradition (p. 452). How near Malebranche came to idealism he shows in chapter iv., where he also dwells much on the interest of Malebranche's psychology, pointing to his affinities with Hume and Hartley (p. 115), and in particular to his anticipation of contemporary "psycho-physiology" (p. 127). He finds it surprising that an English disciple like Norris, who, as a Protestant, was not watched by the same suspicious orthodoxy, should have hesitated to draw the idealistic conclusion which Malebranche could only avoid by an appeal to Revelation (p. 223). Berkeleyanism, however, as M. Lyon himself constantly insists, is at the antipodes of Cartesianism in this respect, that it is "an *a posteriori* metaphysics". The *a posteriori* character of Berkeley's thought, he remarks more than once, is not sufficiently recognised by Prof. Fraser; and he finds that even in the *Siris* there is no fundamental departure from Berkeley's first manner of thinking. Malebranche's doctrine, on the other hand, he describes as "a Cartesian Platonism"; and throughout the history of idealism he finds the antithesis of the Platonising and the experiential tendency; Malebranche and Hegel, in his view, representing the former, Berkeley and Mill the latter. Now is

not the experiential character of Berkeley's philosophising as distinguished from that of Collier an evidence of his direct dependence on Locke, whose aim it was to oppose the *a priori* metaphysics of Descartes? Though Locke may have done nothing himself to educe the idealistic theory from the Cartesian "presuppositions," this does not detract from the importance of his experientialism as a basis for the typical form of English idealism.

An interesting episode of the book is the account of the fortunes of Immaterialism in America (cc. ix.-x.). Full expositions are given of the philosophical system of Dr. Samuel Johnson, "the first President of King's College in New York," and Berkeley's first and most faithful disciple (c. ix.), and of the immaterialism of Jonathan Edwards as it is found set forth in his posthumous work on the mind (c. x.). The *petitio principii* of "common-sense philosophy," however, was soon to triumph in New England, whose University authorities naturally did not fail to become inspired with fear of the "dangerous" consequences of idealism. The discouragement of the Berkeleyan theory by the authorities met with no resistance, and American immaterialism came to an abrupt close (pp. 440-3).

A critic who agrees with M. Lyon in regarding the idealistic theory of the external world as definitively established by philosophy will find little to controvert in his positive conclusions. The distinction he draws between the two schools of idealism—the experiential and the Platonising school, is a sound distinction, and one that may easily be verified in contemporary English philosophy. With what he says as to the two forms of idealism not being so incompatible as might at first appear it is also possible to agree, though it may be doubted whether the reconciliation of them is likely to come, as M. Lyon suggests (p. 479), from "a Hegelian". The reconciliation that a Hegelian would be likely to attempt is one between "Transcendental Idealism" and the Realism of Common-sense.

M. Lyon's book ought to find many readers in England. His work has the merits both of fullness of matter and attractive presentation. His accounts of minor thinkers are especially to be commended, as enabling the reader to form an independent judgment upon their various degrees of interest and originality. He has well understood the characteristics of the English philosophical spirit, though a failure of perfect apprehension may be detected here and there. When it is said, for example (p. 464, n. 2), that Hume, like Mill and all other English thinkers, claimed the right to speculate as boldly as he pleased without in any way menacing received opinions, this gives a somewhat false impression. It would be a better description of the attitude of Descartes than of Hume or Mill. The exact attitude of Hume, however, as M. Lyon very well shows (pp. 464-6), is difficult to define. Even native critics are not at one in their definitions of it.

THOMAS WHITTAKER.

VII.—NEW BOOKS.

[These Notes (by various hands) do not exclude Critical Notices later on.]

On the History of the Process by which the Aristotelian Writings arrived at their Present Form. An Essay by RICHARD SHUTE, late Student and Tutor of Christ Church. With a brief Memoir of the Author. Oxford: Clarendon Press, 1888. Pp. xv., 183.

IN MIND ii. 392, Shute's early work, *A Discourse on Truth*, received the attention due to its great freshness, at least, of style; and when, after a few years of remarkable influence as an Oxford teacher, he sank prematurely into the grave, Mr. J. A. Stewart, in xii. 157, gave expression to the sense left with his sorrowing friends of what he had been, even more than of what he had done or was on the way to do. For himself, as is told in the excellent little memoir (by "F. Y. P.") prefixed to the present volume, he could meet his fate with the dying words (to a friend) now inscribed by his wife on his tomb: "I think that man is happiest who is taken while his hand is still warm on the plough, who has not lived long enough to feel his strength failing him or his work every day worse done". The volume gives an essay he wrote for the Conington Prize Competition in 1882. He was never able to re-write it in the light of his later studies in Aristotle, and it is now published on the responsibility of the friends who were left to dispose of his papers. It is an attempt in a field that has been well worked over in Germany, but Shute displays so much independence of judgment in relation to his foreign predecessors that his friends' decision to lay the results of his survey before English readers is much to be approved. What conclusions he was led to can best be given in words selected from his own summary at p. 176: (1) "Of the great bulk of the Aristotelian works as we now have them, there was no kind of publication during the lifetime of the master, nor probably for a considerable period after his death". (2) "We cannot assert with certainty that we have ever got throughout a treatise in the exact words of Aristotle, though we may be pretty clear that we have a fair representation of his thought; the unity of style observable may belong quite as well to the school as to the individual." (3) "The works which are preserved to us come chiefly, if not entirely, from the tradition of Andronicus, and stand in no very definite relation to the list of Diogenes, and consequently we have a very considerable proportion, not a merely insignificant fraction, of the reputed works of Aristotle known to Latin antiquity." (4) "The majority of the titles and probably all the definite references are post-Aristotelian, and therefore no safe argument can be drawn from the latter as to the authenticity or original order of the Aristotelian works, though other very valuable inferences as to the subsequent history of these works result from their careful consideration." (5) As to "another class of works which bear Aristotle's name—of which we can say with certainty that the portions which we have of them are precisely as the final author wrote them but cannot with equal certainty assert that that author was Aristotle—we can safely assume that these works, and works like these, were those best known to our earliest authorities on the subject, Cicero and his predecessors, and that on them all the praise of Aristotle's style is founded". "Criticism of Aristotle," it is finally declared, should "always be of thought rather than of phrase, of sentence rather than of word".

English Composition and Rhetoric. Enlarged Edition. Part Second. "Emotional Qualities of Style." By ALEXANDER BAIN, LL.D., Emeritus Professor of Logic in the University of Aberdeen. London: Longmans, Green & Co., 1888. Pp. xxxii., 325.

This volume, coming after the other on "Intellectual Elements of Style" issued last year (see *MIND* xii. 298), completes the transformation and development of the author's well-known *Rhetoric* of 1866. Part ii. is essentially, or rather in nearly every respect, a new book. Only in some minor matters is anything to be found common to the new and the old exposition. The former ten-page account of "Strength" disappears in a six-fold longer tracking of the quality through all its kinds and manifestations. "Feeling," taken for purposes of Rhetoric as equivalent to Tenderness or the amiable side of human nature, is in like manner analysed and illustrated through more than 100 pp., where half-a-dozen were given before; and the novel expansion given to the topics "Vituperation" and "The Ludicrous" is only less. There is now also supplied at the beginning a classification of Art-emotions, followed by an elaborate consideration (pp. 11-54) of the rhetorical "Aids to Emotional Qualities". The volume, as it now stands, is of no small interest to the psychologist as a practical—or rather (borrowing a word from German usage) 'pragmatic'—supplement to that theory of the Emotions which has long been one of the author's chief titles to fame. Even in point of theory the careful reader will here meet with new lights; while he cannot but be drawn on by the author's characteristic determination to find the analytic expression of everything that can be analysed in literary effect. Nor is the result the less instructive and useful for guidance, however it may be contended that the best literary work, at least of the creative sort, has always something in it of which analysis can never hope to find the formula.

Francis Bacon: His Life and Philosophy. By JOHN NICHOL, M.A., LL.D., Professor of English Literature in the University of Glasgow. Part i. Bacon's Life. ("Philosophical Classics for English Readers.") Edinburgh and London: W. Blackwood & Sons, 1888. Pp. x., 212.

This is the thirteenth volume issued of the "Philosophical Classics" series. Like its immediate predecessor, Principal Caird's *Spinoza* (reviewed above, in the present No.), it departs, but departs in a different way, from the rule of the series. Of Spinoza no life was given, and even his philosophy was examined rather than expounded. The present volume is all Life, and we have to wait for another to get Prof. Nichol's account of Bacon as a philosopher. It is difficult to say which form of departure from the rule of the series is least to be approved. There was certainly no more occasion for the licence in the case of Spinoza or Bacon than in the case of some half-dozen of the other great thinkers already treated in the series. A great deal can, of course, be said on the debatable events of Bacon's life, and on his personal character, and it is said by Prof. Nichol with plenty of literary effect; but even if, in the sum of it all, much could be called new, one does not see how thereby the understanding of his philosophy is helped forward. For this series, therefore, there was no great need to enlarge on Bacon's life, and Prof. Nichol might have done very well with a single volume. If the series is continued beyond Bacon, as sometimes has been promised in a general way and certainly is much to be desired, let us hope that the editor will enforce again the rule of the one volume fairly balanced, according to the circumstances of each case, between Life and Philosophy. Meanwhile, as regards Bacon and Prof. Nichol, we can but wait, in *MIND*, for the coming Part ii.

Scientific Religion or Higher Possibilities of Life and Practice through the Operation of Natural Forces. By LAURENCE OLIPHANT. With an Appendix by a Clergyman of the Church of England. Edinburgh and London: W. Blackwood & Sons, 1888. Pp. xiii., 473.

It is no more possible with this book than with its predecessor *Sympneumata* (see MIND x. 301) to attempt even the most general analysis of contents. That, we are told, was written down by Mr. Oliphant from the dictation of his late wife, he being mere passive instrument in the case; this has come forth from himself, but still in a manner of which he can give no further account than that it has been written under an irresistible impulse, that would take effect only in the particular room of his Syrian home whence the spirit of his wife had passed into the unseen. In the first half of the book, the religion of which he has thus become the channel of revelation to the world has its "scientific" character set forth and vindicated, in relation with certain results of recent inquiry and in contrast to the baseless dogmatism of prevailing religious systems. The second half consists in great part of an exegesis of Scripture (carried out with minuter detail by another hand in the appendix), showing the hidden truth enshrined there which has all the time been missed or perverted by the Christian Churches of every name. The "higher possibilities of life and practice" now in view depend upon the victory to be gained by the "Divine Feminine" over the "infernal feminine," which has hitherto held sway in our world since the Fall and had already before caused nothing less than a world-catastrophe. In other words, the true position of woman as the proper complement of man (each particular woman, in the seen or unseen, the complement of some particular man), is in process of becoming finally asserted; and hereby the salvation of the world will be wrought. There is a curious affinity—apparently quite unknown to Mr. Oliphant—between his own views and those adumbrated by Comte at the end of the *Politique Positive*; though their methods of deduction or other argumentative support are as widely different as could be.

Proceedings of the Society of Psychical Research. Part xii. London: Trübner & Co., 1888. Pp. 270.

The longest of four main papers in this latest Part of these *Proceedings* is a very elaborate (150 pp.) "Relation de diverses expériences sur la transmission mentale, la lucidité et autres phénomènes non explicables par les données scientifiques actuelles," by M. Charles Richet, Professor of Physiology in the Paris Faculty of Medicine, and editor of the *Revue Scientifique*. It gives, with the help of many figured illustrations, the results of an experimental inquiry carried on for six years, pointing in the author's opinion to, though (he must add) not yet demonstrating with certainty, "the existence in certain persons at certain moments of a faculty of [objective] knowledge which has no relation with our normal faculties". He would call this faculty "Lucidity" (without implying that it has a relation to retinal vision more than to any other sense), and thinks that all the phenomena of so-called thought-transference, &c., may be brought under it. New "Experiments in Thought-transference," by A. Schmoll and J. E. Mabire, occupy 46 pp. of the Part. The other chief papers are from the hand, now for ever still, that has always been most active in the work of the Society since it began to be. One is but a reprint, slightly modified and now entitled "Hypnotism and Telepathy," of the two articles contributed by Gurney to MIND xii. 212, 397, under the name "Further Problems of Hypnotism".

The other (pp. 3-17) records what appears to have been his latest series of "Experiments in Hypnotism," yielding further striking results as to an "intelligent automatism" active in the post-hypnotic state, which the previous series had first disclosed, and as to production of *anæsthesia* by proximity of the operator's hand, which had been observed a good deal earlier.

Evolution and its Relation to Religious Thought. By JOSEPH LE CONTE, Professor of Geology and Natural History in the University of California. London: Chapman & Hall, 1888. Pp. xviii., 344.

In the first two parts of this book (i. "What is Evolution?" ii. "Evidences of the Truth of Evolution") the author gives an exposition of the doctrine of evolution generally, with more special reference to biological evolution. In part iii. ("The Relation of Evolution to Religious Thought," pp. 257-338) he seeks to show the consistency of the evolution-theory in its widest sense with "fundamental religious beliefs". The first two parts are not only a good exposition of the theory as now held, including its latest developments, but have some distinctive points that claim the attention of biologists. In a chapter on "The Relation of Louis Agassiz to the Theory of Evolution" (pt. i., ch. ii., pp. 32-49), the author contends that "without Agassiz (or his equivalent), there would have been no Darwin"; that the great American naturalist "laid the whole foundation of evolution, solid and broad," though he "refused to build any scientific structure on it". Without the establishment of certain "laws of geologic succession"—formulated by the author as (a) the law of differentiation, (b) the law of progress of the whole, (c) the law of cyclical movement—no inductive proof of the Darwinian theory would have been possible, and for the knowledge of these laws "we are mainly indebted to Agassiz". These laws are, of course, no longer to be understood as merely formal laws, but as laws of the actual process of evolution. One of the distinctive points of the author's view is "that the steps of evolution are not always uniform" (p. 239). "Causes or forces are constant, but phenomena everywhere and in every department of Nature are *paroxysmal*." That the transitions between species are in a manner catastrophic, being brought on by rapidly changing conditions, and thus extend over much shorter periods of time than the persistence of species in fixed forms adapted to uniform conditions, serves in part to explain the rarity of transitional forms in the geological record. What seems to be the comparative fixity of forms in recent times is explained by the tendency of specialisation to arrest successively the advance along particular lines. "Thus, throughout the whole geological history of the earth, the larger number of forms, by specialisation, become rigid and perish, while the fewer, more generalised and more plastic forms take up the march and carry it forward a step, only to be themselves specialised and fixed. . . . Now, obviously, this specialisation and respecialisation can not go on for ever." The advent of man is "in many ways a sign of the completeness of organic evolution". With man, evolution has been transferred "from the organic to the social plane, from the material to the psychological," and it seems as if, "when the cycle of human evolution culminates," "organic forms will no longer be modified by natural but wholly by artificial selection" (pp. 250-1). The doctrine of evolution is brought into harmony with the requirements of religious thought by the view that "the phenomena of Nature are naught else than objectified modes of divine thought, the forces of Nature naught else than different forms of one omnipresent divine

energy or will, the laws of Nature naught else than the regular modes of operation of that divine will, invariable because He is unchangeable" (p. 283). In accordance with his biological theory of "paroxysmal" transitions from one form of life to another, the author holds that "there is a sort of taxonomic scale of force and matter. There are—(1) the plane of elements; (2) the plane of chemical compounds; (3) the plane of vegetal life; (4) the plane of animal life; and (5) the plane of rational and, as we hope, immortal life" (p. 296). "Although energy by transmutation may take all these different forms, and thus does now circulate up and down through all these planes, yet the passage from one plane upward to another is not a gradual passage by sliding scale, but at one bound. When the necessary conditions are present, a new and higher form of force at once appears, like a birth into a higher sphere." The upward movement of energy is one of increasing "individuation". "According to this view, the vital principle of plants and the anima of animals are but different stages of the development of spirit in the womb of Nature: *in man at last it came to birth*" (p. 300). Nature is all mechanics from the outside, all mind from the inside. "For science it is all mechanics, for theology it is all mind. It is the duty of philosophy to reconcile these two opposite views" (p. 317). "This reconciliation, as far as it is possible for us, is found in a personal will immanent in Nature, and determining directly all its phenomena" (p. 321). "Immanence without pantheism, and personality without anthropomorphism," is the phrase in which the author sums up this view.

The Philosophy of Religion on the Basis of its History. By Dr. OTTO PFLEIDERER, Professor in the University of Berlin. Vol. iii., translated by ALLAN MENZIES, B.D. London: Williams & Norgate, 1888. Pp. viii., 356.

Referring to MIND x. 285 for Critical Notice of the German original and to xi. 587, xii. 616, for mention of former parts of the English translation, we now note the appearance of the present volume giving the first half of the second main division of the work—"Genetic-speculative Philosophy of Religion". The other half of the division, completing the work, is already in the press and will appear shortly. The translator has, with the author's permission, added a few notes on some works bearing on mythology and early religions which have appeared since the date of the last German edition.

Memory, its Logical Relations and Cultivation. By F. W. EDRIDGE-GREEN, M.B., B.S. (Durham); Member of the Royal College of Surgeons (Eng.); Licentiate of the Royal College of Physicians (Lond.). London: Baillière, Tindall & Cox, 1888. Pp. iv., 274.

The author's doctrine of memory forms part of a physiological and psychological doctrine that has much in common with phrenology, although the special assumptions of phrenologists are rejected (pp. 35-9). "The mind," in his view, "is made up of a number of faculties, each of which responds to certain impressions, and influences the mind as a whole to seek after those impressions and to avoid their negatives" (p. 48). The brain is "a multiple organ," and each of its parts is the seat of a mental faculty. A classification of "the faculties of the mind," chiefly drawn from phrenology, is given on pp. 66-7. Memory, according to the theory developed, is "a definite faculty, and has its seat in the basal ganglion of the brain, separate from, but associated

with, all the other faculties of the mind" (p. 3). The optic thalami and the corpora striata are "the seats of sensory and motor memory respectively" (p. 205). Arguing from cases where there has been "loss of memory of impressions received within a certain period of time" unaccompanied by "loss of function of any of the faculties," the author concludes that "the theory that the memory occupies the same portion of brain as the perception is not tenable" (pp. 47-48). Part i. (pp. 1-217) contains the theory and many illustrative anecdotes. Part ii. (pp. 218-271) gives rules for the cultivation of the memory, "sensory" and "motor".

Leibniz's New Essays concerning the Human Understanding. A Critical Exposition by JOHN DEWEY, Ph.D., Assistant Professor of Philosophy in the University of Michigan, Professor (Elect) of Mental and Moral Philosophy in the University of Minnesota. ("Griggs's Philosophical Classics," No. 7.) Chicago: S. C. Griggs & Co., 1888. Pp. xvii., 272.

No piece of work was more wanted or was better worth doing for this useful series (as to the aims and compass of which see MIND No. 51, p. 432) than that which Prof. Dewey has here executed; and, considering his subject, he has shown nothing but good judgment in treating it with a freedom of method, in respect of sidelong view, not adopted by writers of the previous volumes. It is hardly possible, or would be useless if possible, to give a simply "critical exposition" of the *Nouveaux Essais* by the side of the other "masterpieces of German thought" which the series covers; yet there is no other which it more, or in a way even so much, should interest the English student to understand. In explaining the famous controversial treatise, Prof. Dewey has to keep his eye at once on Locke, against whom it is directed, and on the manifold occasional (none of them systematic) expositions of Leibniz's characteristic ideas, which are all through implied but seldom expressly declared in the *Nouveaux Essais*. The result is that he manages to make of the volume a very welcome guide to the comprehension of Leibniz generally—welcome because affording a most useful supplement, as regards the main conceptions of his philosophy, to the account (excellent as that in many respects was) given by Dr. Theodore Merz in the volume contributed some years ago (see MIND ix. 316) to "Blackwood's Philosophical Classics". We may return to Prof. Dewey's exposition in fulfilling—it is hoped before long—a half-promise made in No. 50, p. 312, to give some detailed account of the important new material for the understanding of Leibniz's relations to Locke lately brought forward by C. J. Gerhardt. Of this material Prof. Dewey does not seem to have had the opportunity of making use.

The Aryan Race, its Origin and its Achievements. By CHARLES MORRIS. Chicago: S. C. Griggs & Co., 1888. Pp. vi., 347.

The author has very well succeeded in his purpose of giving a brief outline of the history of the Aryan race as ascertained by philologists and anthropologists. The narrative is characterised by directness of movement and grasp of the subject as a whole. His speculations about the primitive home of the Aryans and about the origin of the Aryan race have some originality. There are interesting remarks (see, for example, p. 296) on the possible influence of climate and physical surroundings in the production of racial types. The short chapter (ch. ix., pp. 215-242) on "The Age of Philosophy" deals more with the preparation in mythology for philosophical speculation than with philosophy itself; but this is in accordance with the general plan of the book.

De la Classification des Sciences. Étude logique par ADRIEN NAVILLE, Professeur à l'Académie de Neuchâtel. (Extrait de la *Critique philosophique*.) Genève-Bale : H. Georg, 1888. Pp. 46.

The author divides the sciences into three groups : "(1) The sciences of the real or sciences of beings. History. (2) The sciences of the necessary conditions of the possible or sciences of laws. Theorematic. (3) The sciences of the ideal or of the rules of activity. Regulative sciences." A scientific law, as established in the theorematic sciences, affirms that given such and such a term, another term necessarily follows. The effective sequence of a particular term is established when it is known by historical science that such and such a term was present in the beginning. Thus "historical laws," whether laws of physical development or of human history, are properly speaking not scientific laws but "general facts"; and their explanation depends on two factors—(1) laws of nature, (2) a certain collocation, among many possible ones, of determinate elements. By supposing a different original collocation of elements therefore, we can, without absurdity, "represent to ourselves in the past a history different from real history". As the real is a part (and only a part) of the possible, so also is the ideal. Being a different part, it is the object of a separate science. "The science of the ideal is the exposition of those rules of which the practice would assure the realisation of the best that is possible." If these rules could be adequately formulated, all persons would be obliged to accept them theoretically, though the practice of them would still be free. The problem of the particular "sciences of the ideal" is to determine the best ends, and, with the aid of the historical sciences and the sciences of laws, to select those ends that are realisable and to show how they can be realised. The "sciences of the ideal" or "regulative sciences" are divided into (1) "sciences regulative of invention," and (2) "sciences regulative of knowledge". The first group includes the "theory of good ends and of their hierarchy" (morals), and the "theory of means or theory of arts". The "arts" are divided into (a) those that aim at producing an immediate satisfaction (æsthetics, theory of play), (b) those that aim at the production of utility (theories of industry, medicine, eloquence, education, politics, &c.). Logic, "the science regulative of knowledge" or "of other sciences," is also included in the classification as a "science of the ideal," because "if (theoretical) science does not transform the object that it studies, it at least transforms the mind itself. Science, like art, has for aim and for result an amelioration of reality; the reality that is ameliorated is here the intelligence."

(*La Psychologie de l'Enfant.*) *L'Art et la Poésie chez l'Enfant.* Par BERNARD PEREZ. Paris : F. Alcan, 1888. Pp. vii., 308.

Some remarks in the second edition of M. Perez's *L'Education Morale dès le Berceau* (MIND xiii. 301) may have led his readers to hope that he would treat separately the subject of the æsthetic sense in children. This he has now done in the present volume, which, like his former works, is at the same time a study in the psychology of childhood and a practical treatise on education. The titles of its chapters are :—i. "Le goût de la parure"; ii. "Le sentiment de la nature"; iii. "Le sentiment de la nature (*suite*) : la grâce et le sublime : les fleurs, les vallées, les montagnes, la mer"; iv. "L'art de plaire : politesse, babil, coquetterie"; v. "La musique"; vi. "Le dessin"; vii. "La tendance dramatique"; viii. "La lecture"; ix. "La composition littéraire". These titles by themselves give an idea of the varied psychological interest

characteristic of this as of the author's former studies of childhood. A few points of theoretical interest may first be selected for mention. M. Perez notices, as other observers have done, that children pay attention only to the salient features of landscape (pp. 78-9) and that they are not spontaneously "animists" (pp. 45-6). That which is absolutely constant in nature, he finds, does not at first become the object of their æsthetic emotions. Novelty is required to arouse æsthetic interest; and in the case of the heavenly bodies this interest is aroused by changes of position (p. 42). "Language and vocal music are in the beginning one and the same thing, the expression of less determinate feelings." It is only towards the age of four that the separation between the speaking and the singing voice is completely effected (pp. 148-9). In the reproduction of sounds, motor images and excitations play the chief part (p. 152). In the recognition of objects and in the first attempts at drawing, form and not colour is the essential thing (pp. 179, 205). A position on which M. Perez much insists is that "the most important factor of the æsthetic feeling is sympathy. . . . Human interest, that is the root and the crown of observation" (p. 59). The feelings aroused by external nature and, still more, by music, are not at first the strictly æsthetic feelings, but a vague emotional excitement. This, M. Perez thinks, has its dangers; and as a means of preventing over-excitation of the sensibilities, he suggests training of the intellectual element in the appreciation of art. To teach children music, instead of merely letting them hear it, for example, fulfils this purpose. M. Perez frequently returns to the question whether important intellectual differences between the sexes are observable in children, and is inclined to answer in the negative. His practical conclusion here is—"Give the two sexes the same education, an education of liberty, of good sense and of measure, and each of them will profit by it in its own manner" (p. 135). His tendency in detail, however, is towards more minute supervision than seems altogether consistent with this precept. The condemnation of dolls and fairy tales, remarked on by Mr. Pollock in his review of the first edition of *L'Education Morale des le Berceau* (MIND vi. 281) does not reappear, but the suggestion that it is desirable to moralise Punch and Judy (p. 225) betrays the same tendency to over-regulation. Less attention is devoted to the beginnings of the literary sense in children than to the beginnings of the feeling for natural beauty and for music. In the chapter on reading we miss the varied psychological observations that give so much interest to the earlier part of the book; and it is here especially that the tendency to excessive regulation is noticeable. Two sentences may be quoted in illustration. "Ainsi les lectures des enfants sont toutes contrôlées, discutées, expliquées, indirectement réglées" (p. 265). "Heureux les enfants dont les lectures sont surveillées, partagées, contrôlées!" (p. 307). Yet, while he would check the unprompted reading of children, M. Perez is all for making literary education less severe. He would teach historical facts, for example, by a kind of dramatic games. He also proposes a method of "forming the young writer" by setting him to write compositions on himself and his own occupations and thoughts instead of on the customary subjects for rhetorical exercises. The art of literary composition, he thinks, might thus be learnt by children "en se jouant". To all this exception may be taken on several grounds, but especially on these two. First, according to what M. Perez has said with reference to music, is not the proper way of obviating the dangers that lurk in indiscriminate reading—unfavourable, as he considers it, to "reason and abstract judgments"—to give

apart from it a sufficient amount of not too easy intellectual discipline ? Secondly, is minutely supervised and regulated play real play ?

Les Principes du Droit. Par EMILE BEAUSSIRE, Membre de l'Institut. Paris : F. Alcan, 1888. Pp. vi., 427.

To this work the author's *Principes de la Morale*, reviewed in MIND xi. 272, is introductory. The idea of "right," he holds, must be based on the idea of duty ; and this idea the theory of law has to take, without further investigation on its own account, from ethics. "Le devoir sert de base au droit comme l'espace à la géométrie. Le droit laisse à la morale le soin de remonter au delà du devoir, comme la géométrie laisse à la métaphysique le soin de remonter au delà de l'espace." The volume is divided into an Introduction (pp. 1-31) and three Books : i. "Théorie générale du Droit" (pp. 33-69), ii. "Droit public" (pp. 72-199), iii. "Droit privé" (pp. 202-420). In his Introduction the author seeks to maintain the conceptions of "state of nature," "social contract" and "natural rights," in senses defined by him. The "state of nature," in his view, is not a primitive state that preceded society, but a state that always persists side by side with the "legal state". It includes all those relations of men to one another and to that which is outside them that do not come under political control. Similarly, the "social contract" is not an agreement deliberately entered into when first the legal state was substituted for the state of nature, but is a tacit contract implied in the constitution of every society. The conception of "natural right" is required to give positive law its "legitimacy," as positive law is required to give natural right its "indispensable guarantees". The mutual relations between politics and natural right are thus defined. "Le droit naturel n'embrasse pas la politique, et il n'est pas embrassé par elle. Le premier devoir de la politique est de respecter le droit naturel, et l'un des objets principaux du droit naturel est de juger la politique, de l'approuver ou de la flétrir suivant qu'elle est juste ou injuste." The general principle which the author makes the foundation of his philosophy of law is that right is "the guarantee of duty". "The rights of man" "embrace all that each man needs to do or to possess in order to accomplish freely the moral law" (p. 46). "Life and liberty are logically the first of rights, since they are the first and the most constant condition of the accomplishment of duty" (p. 390). M. Beaussire, starting from divisions made by Grotius and Reid, divides rights into rights to "respect" and to "assistance". "So long as a man can by himself fulfil all his duties, he has only the right to fulfil them in peace (i.e., to be respected in the fulfilment of them) ; but so soon as he cannot entirely suffice to himself, assistance is due to him, not for the sake of him personally, but for the sake of the law which governs him and of which all men are the subjects and ministers" (p. 53).

Esquisse d'une Philosophie de l'Être. Par J. E. ALAUX, Professeur de faculté, Professeur de philosophie à l'École des lettres d'Alger. Paris : F. Alcan, 1888. Pp. 105.

The author here presents a summary of a philosophical system which he hopes to develop at some future time. In its present form, he says, "c'est l'esquisse d'une tentative de renouveler la theodicée, qui, stationnaire, ce semble, depuis Leibniz, ou ne se développant que dans le sens du panthéisme, laisse tomber ceux que ne satisfait pas un insuffisant optimisme dans un pessimisme d'autant plus redoutable que la logique ne permet point de choix entre la foi en Dieu et le désespoir".

The relation of the author's doctrine to that of Leibniz is explained on pp. 82-4. His system is a monadism, according to which "each substance is the cause of the phenomena that reveal its own being, in virtue of the being that is in it, and under the excitation of other beings". The "law of being" at which he arrives is summed up thus: "Tout possible est une puissance propre, qui tend à l'être; tout réel est un conscient résultant d'une synthèse de deux termes contraires et identiques, un *moi* et un *non-moi* qui, suscités par Dieu et se suscitant l'un l'autre, se font, sous cette action du suscitateur suprême, exister l'un l'autre, de degré en degré, de réalité en réalité, d'être en être, jusqu'à la perfection de l'être, jusqu'à l'universelle communauté de vie en Dieu".

La Morale de Socrate. PAR MME. JULES FAVRE (*née VELTEN*). Paris: F. Alcan, 1888. Pp. iii., 328.

This is a companion volume to *La Morale des Stoïciens*, noticed in MIND xiii. 136. Translated passages from the *Memorabilia* and from Plato are arranged according to the general plan of the author's former volume; each group of extracts having for introduction a sketch of the teaching of Socrates on the particular point. The book is in two parts: i. "God—Duties towards God" (pp. 5-40), ii. "The Soul—Duties towards the Soul" (pp. 41-323). Socrates is viewed as the precursor of Christian morality.

Critique de la Raison Pratique. PAR EMMANUEL KANT. Nouvelle Traduction française avec un Avant-Propos sur la Philosophie de Kant en France de 1778 à 1814, des Notes philologiques et philosophiques, par F. PICAVET, Agrégé de philosophie. Paris: F. Alcan, 1888. Pp. xxxvii., 326.

M. Picavet's edition, with preface, of Condillac's *Traité des Sensations*, was mentioned in MIND xi. 303. He here puts forth a translation of the *Kritik d. praktischen Vernunft*, executed with characteristic care, and prefaced by a very interesting account of the appreciation that Kant had found in France before the time when, according to the usual statement, Kantian studies first begin. He shows that Kant's works were common subjects of discussion among French students of philosophy during the whole period treated of; that, from the appearance of the *Kritik d. reinen Vernunft*, its importance was recognised in France as in Germany; that, during the Revolutionary period, it was the usual remark of those Frenchmen who occupied themselves with Kant, that the *Kritik* was making a revolution in philosophy not less far-reaching than the contemporary political revolution; and that, when the exposition of Kant's philosophy by Villers appeared in 1801, protests justifiably made themselves heard on all sides against his assumption that French philosophers had neglected Kant. Thus, instead of coming at the beginning of the period of French occupation with Kant, Mme. de Staël, "the most illustrious of the writers who admired Kant or caused him to be admired," comes at the end of a period during which his doctrines had been repeatedly expounded and discussed. M. Picavet brings his sketch to a close with 1814, the history of Kantianism in France from that time being well known. After a page of final summary, he concludes with these sentences. "Nous nous demandons si l'on pourrait, vingt ans après l'apparition des œuvres capitales d'un Comte, d'un Spencer, d'un Darwin, trouver en Allemagne autant d'hommes célèbres à des titres si divers, qui aient tenté de les com-

prendre, autant de travaux importants qui aient eu pour but de faire connaître, d'apprécier les doctrines nouvelles, de mettre même en relief la valeur du penseur dont les conclusions auraient été combattues comme inexactes. Et cependant les contemporains de ces trois penseurs n'ont pas été mêlés à des événements aussi terribles et aussi peu propices à la spéculation que ceux dont ont été témoins les hommes qui vécurent de 1789 à 1814" (p. xxxvi.). To the translation are appended some valuable "Philosophical Notes" (pp. 297-323).

Etudes de Psychologie expérimentale. Par ALFRED BINET. Paris: Octave Doin, 1888. Pp. 307.

Four studies by one of the most active and effective of French investigators: (1) "Le Fétichisme dans l'Amour" (pp. 1-85); (2) "La Vie psychique des Micro-organismes" (pp. 87-237); (3) "L'Intensité des Images mentales" (pp. 239-77); (4) "Le Problème hypnotique" (pp. 279-98); followed by a "Note sur l'Ecriture hystérique" (pp. 299-306). The third and fourth are of special value in relation to questions which the author himself has done as much as any man to invest with their present interest. The second is a very elaborate and careful study in a new field. In the first, certain morbid forms of erotic passion are brought under psychological law.

L'Hypnotisme et la Liberté des Représentations publiques. Lettres à M. le Professeur Thiriart, Représentant, Suivies de l'examen du Rapport présenté par M. Masoin à l'Académie de Médecine. Par J. DELBOEUF, Professeur à l'Université de Liège, &c. Liège: Ch. Aug. Desoer, 1888. Pp. 111.

In these "Letters" Prof. Delboeuf utters a protest against the attempt that is being made in Belgium and other parts of Europe to suppress public representations of hypnotic phenomena. He contends both that the dangers of hypnotism have been exaggerated, and that the best means of guarding against those that really exist is publicity. Against the school of the Salpêtrière he maintains the position, defended by him on other occasions, that hypnotism is in no way connected with neurotic diseases. The phenomenon with which it can best be compared is ordinary sleep; and perfectly healthy subjects are often much easier to hypnotise than hysterical subjects. Hypnotic 'suggestion' is by no means all-powerful; and memory of what has passed in the hypnotic state "can be perfectly revived". That the practice of hypnotism should be legally restricted, as has been proposed, to medical men, would not prevent its abuse. It is, indeed, only by general knowledge of its effects that its dangers can be obviated. To establish the proposed monopoly would, besides, be to show ingratitude to those who, after all, were the means of forcing hypnotism on the attention of the medical profession.

Kritik der reinen Erfahrung. Von Dr. RICHARD AVENARIUS, Ord. Professor der Philosophie an der Universität Zürich. Erster Band. Leipzig: Fues's Verlag (R. Reisland), 1888. Pp. xxii., 217.

It is now twelve years since the author's *Philosophie als Denken der Welt gemäss dem Princip des kleinsten Kraftmasses*, or "Prolegomena to a Critique of Pure Experience," saw the light (MIND i. 298). The present volume, which is the first part of the projected "Critique," has the importance of philosophical work that has been long meditated and carefully elaborated. Its form, which, as the author admits, presents

some difficulty, has been deliberately chosen. The use of symbols that characterises it, besides being adopted as a means of directing the attention to the facts of experience apart from any traditional scientific or philosophical way of looking at them (p. 15), is also connected with the author's conception of philosophy as the formulation of experience from the point of view of a disinterested spectator (p. 10). This conception requires, in his view, that consciousness should be temporarily abstracted from, and, accordingly, that the relations between the observed organism and its environment should be presented in a mathematico-mechanical form. A few elementary symbols having been selected to designate fundamental conceptions, the author proceeds, by constantly ramifying distinctions, to work out the relations of man to his surroundings, physical and social. The most important of the conceptions symbolically designated is that of "System C," or the part of the central nervous system that gathers up in itself the changes proceeding from the periphery, and distributes to the periphery the changes that have to be set going from the centre (pp. 35-6). The relation of the conservation of system C to the conservation of the organism having been formulated, the conditions are sought of the "vital conservation" of system C itself. Certain "fictions," such as that of "ideal surroundings" and of "the ideal system C in not ideal surroundings" are introduced, and the conditions of approximation to them investigated. After expressions have been found for the changes of system C and the conditions of its conservation (in less or greater degrees up to the "conservation-maximum") and of its destruction, the maintenance of the individual system C is considered in its relations to the corresponding systems of other individuals and their conservation. This leads to the formulation of the conception of the "congregal system," or " ΣC ," the conditions of the maintenance and growth of which are then determined. The most favourable condition thinkable for the maintenance of the "total system"—whether C itself or ΣC —is found to be "when no partial system maintains itself by diminution, but each by augmentation of the vital conservation-value of others; so that that case would be designated as the *perfect relation* in which each single partial system should maintain itself perfectly under the greatest thinkable increase of the vital conservation-value of the greatest thinkable number of other partial systems, and in which accordingly the total system also should maintain itself perfectly under the greatest thinkable increase of the vital conservation-value of each single partial system" (p. 165). At the outset of the detailed analysis (p. 25), the question was put: "In what sense and how far can the constituent parts of our surroundings be taken as the presupposition of experience?" The result of the whole is summed up in a hypothetical answer to this question, given in the author's symbolical terminology, on pp. 199-200.

Kritik der Kantischen Antinomienlehre. Von Dr. FRANZ ERHARDT. Leipzig: Fues's Verlag (R. Reisland), 1888. Pp. 83.

The author of this criticism of Kant's doctrine of the Antinomies, while recognising the solution Kant gave as "right in principle," aims at showing by detailed argument that the antinomies are "in themselves false". The rejection of the doctrine of the antinomies, he contends, does not weaken Kant's system; for the ground of the Kantian transcendental idealism is not in the doctrine of the antinomies but, if anywhere, in the Transcendental Aesthetic.

Alles in Allen. Metalogik—Metaphysik—Metapsychik. Von LUDWIG HALLER. Berlin: C. Duncker (C. Heymons), 1888. Pp. xv., 480.

This (incomplete) posthumous work is an attempt at a speculative doctrine in the spirit of Parmenides and Spinoza. It manifests a certain feeling for the larger constructions of philosophical thought, but is hardly articulate enough for anything definite to be said as to its outcome.

(1) *Ueber Kant's Zahlbegriff*, and (2) *Stuart Mill's Zahlbegriff*. Von Dr. CARL THEODOR MICHAËLIS. Berlin: R. Gaertner (Hermann Heyfelder), 1884, 1888. Pp. 18, 18.

The first of these pieces is a criticism of Kant's theory of the foundations of arithmetic. The author finds that not arithmetic but geometry is the starting-point of Kant's critical investigations; that he arrives at certain philosophical results from the consideration of geometry, and then tries to bring his conception of number into harmony with these. When arithmetic is considered independently, it is seen that number is the expression of synthesis generally, while space and time are only expressive of synthesis in a special form (p. 13). The conclusion, as regards the relations of the mathematical sciences, is that "*geometry is applied arithmetic*" (p. 15).

The second piece is more a criticism of Mill as representing the traditional English philosophy than a special examination of his conception of number. The starting-point of philosophy, according to the author, ought to be a "reflection" (*Besinnung*) like that of Descartes and Kant, not empirical psychology, as with the English school (p. 16). While Kant's doctrine of number, although he has not rightly understood the nature of arithmetical synthesis, may be corrected by means of his own system, Mill's doctrine is fundamentally defective because based on empirical psychology.

Allerlei aus Volks- und Menschenkunde. Von A. BASTIAN. Erster Band. Mit 3 Tafeln in Lichtdruck. Zweiter Band. Mit 18 photolithographischen Tafeln. Berlin: E. S. Mittler & Sohn, 1888. Pp. xi., 512; cxx., 380.

No less comprehensive title than that which it bears could describe the wealth of material that is to be found in Dr. Bastian's latest contribution to the study of the minds of peoples. The second of the two volumes is illustrated by a series of plates (with explanatory text extending from p. 240 to p. 358), which may be regarded as a supplement to the ethnological atlas that accompanied the author's immediately preceding work (see *MIND* xiii. 306). The ideas selected for illustration are chiefly Buddhistic and Christian. There is nothing new in the way of theory, but the accumulation of facts by which the author seeks to exhibit his ideas in concrete form is perhaps more extraordinary than ever. In vol. i., pp. 465-504, he returns to the subject of Theosophy and "spiritistic hocus pocus" discussed by him at some length in a former work (*MIND* xii. 308).

FRIEDRICH UEBERWEG's *Grundriss der Geschichte der Philosophie*. Dritter Theil. "Die Neuzeit." Siebente, mit einem Philosophen- u. Litteratoren-Register versehene, Auflage, bearbeitet u. herausgegeben von Dr. MAX HEINZE, ord. Professor der Philosophie an der Universität Leipzig. Berlin: E. Mittler u. Sohn, 1888. Pp. viii., 568.

The two earlier parts of the latest (seventh) edition of this standard work were noticed in *MIND* xi. 588. The third part here follows, and

shows the same anxious care in the editor to keep up the character of the work as in every way the fullest and most serviceable History of the compendious class. The new matter incorporated adds 60 pp. to the size of the part as it stood in the sixth edition of 1883. A numerical statement of this kind, however, gives little notion of all that the editor has done for the book. While the additions are chiefly made in the fourth section devoted to the present generation, but are also considerable in the first which treats of the period of transition from the middle age, there are important changes in something more than the form of the second section. It was a serious defect of the book in English eyes that Hobbes and others were made a mere appendage to Bacon, and again Berkeley and others a mere appendage to Locke. The defect is now made good. Hobbes is set in the forefront of a new independent paragraph; Berkeley gets the like recognition, which was so clearly his due; and there is besides a special paragraph given to English Deism, before the old one given to the 18th century moralists headed by Shaftesbury. The paragraph-division remains what it was in the third section—from Kant to Beneke; but in the fourth there has been the same desire as in the second to give more distinctive prominence to philosophical movements that are—or in as far as they are—distinct. One can but admire the extraordinary industry, joined with discrimination, of the editor in his efforts to omit no bibliographical references of importance; on the philosophical journals especially he has kept his eye to excellent purpose and effect. It must be added that occasionally (as on p. 197) something is left to be desired in the accuracy with which titles of English books are printed.

Der Ursprung der Sprache im Zusammenhange mit den letzten Fragen alles Wissens. Eine Darstellung, Kritik u. Fortentwicklung der vorzüglichsten Ansichten von Dr. H. STEINTHAL, a. o. Professor für Sprachwissenschaft an der Universität zu Berlin, &c. Vierte, abermals erweiterte Auflage. Berlin: F. Dümmler, 1888. Pp. xx., 380.

This edition is not a little altered from the third of 1877 (see *MIND* ii. 276), but is hardly at all extended, as that one was so greatly beyond what went before it. The additions have reference to the recent linguistic work (from 1876), and occupy more than a hundred pages, for which room is found chiefly by curtailing the account of Geiger which made so prominent a feature of the third edition. They fall under four heads. (1) The evidence, especially that of the Schipka-jaw, for a speechless race of men in the far prehistoric past, is discussed at length (pp. 264-81). (2) Noire's writings (from 1877) are subjected to a criticism not more trenchant than they need (pp. 281-319). (3) Wundt's views, as set out both in occasional and systematic form, are appreciatively considered (pp. 319-50). Finally (4), the position of the author and his school is declared, in relation also to other contributions to linguistic theory made within the last decade (pp. 350-80). If there is a certain discontinuity in the contents of the book, due to the manner in which it has been from time to time recomposed, there is certainly no want of freshness and vigour of treatment either in the new or in the older parts.

Die praktische Philosophie und ihre Bedeutung für die Rechtsstudien. Ein Beitrag zur Reform unserer Universitäten von Dr. EDUARD FECHTNER. Wien: A. Hölder, 1888. Pp. 87.

This, like Prof. Angiulli's book noticed in No. 51, p. 459, is a plea for assigning to philosophy a central position in the higher education. Dr. Fechtner, starting from Mill's saying as to the purpose of the university,

quoted also by Prof. Angiulli, goes on to protest against recent projects of reform that aim at dividing up university-education more and more into specialties without any bond of union. The true bond of union, he contends, is philosophy; and now that specialising has been carried so far, there is more need of philosophy than ever. It is the interests of the faculty of law that the author has chiefly in view. After insisting (with much support from distinguished jurists) on the importance of philosophy in general and ethics in particular for the scientific study of jurisprudence, he discusses in a last section (pp. 72-87) the question of the "philosophical propædæutic" in the Austrian Gymnasias. Here he finds himself supported in some of his special contentions by Dr. Meinong (see *MIND* x. 624), and in his general view of the place due to philosophical propædæutic in modern German education by Dr. Paulsen (*MIND* x. 312). He himself proposes to add ethics to the psychology and formal logic now taught in the Gymnasias, and would find a place for it by diminishing the mass of miscellaneous information which tends too much in modern education to replace the disciplinary subjects.

Die holländische Philosophie im neunzehnten Jahrhundert. Eine Studie von G. VON ANTAL. Utrecht: C. H. E. Breijer, 1888. Pp. 112.

A detailed historical study of philosophy in Holland in the 19th century. The author regards Dutch philosophy as tending to an intermediate position between "the idealistic philosophy of Germany and the empiristic philosophy of England". "In the first half of the century it is idealistic, in the second empiristic, or—if the expression is preferred—positivistic."

RECEIVED also:—

- J. Rickaby, *Moral Philosophy*, Lond., Longmans, pp. viii., 376.
 C. H. Hinton, *A New Era of Thought*, Swan Sonnenschein, pp. xvi., 217.
 " *Scientific Romances*, vii., viii., ditto, pp. 22, 17.
 A. J. Bell, *Whence comes Man?* W. Isbister, pp. 353.
 F. M. Müller, *Lectures on the Science of Thought*, Chicago, Open Court Publishing Co., pp. vi., 95, 28 (App.).
 E. Pellis, *La Philosophie de la Mécanique*, Paris, F. Alcan, pp. 185.
 E. Ferrière, *La Vie et l'Ame*, ditto, pp. 580.
 J.-J. Gourd, *Le Phénomène*, ditto, pp. 447.
 F. Picavet, *L'Histoire de la Philosophie, ce qu'elle a été, &c.*, ditto, pp. 48.
 G. Cesca, *La Metafisica, &c., del Leibniz*, Padova, Drucker e Senigaglia, pp. 44.
 A. Döring, *Philosophische Güterlehre*, Berlin, R. Gaertner, pp. xi., 438.
 G. v. Giżycki, *Kant u. Schopenhauer*, Leipzig, W. Friedrich, pp. 112.
 P. v. Giżycki, *Autoritäten*, Berlin, F. u. P. Lehmann, pp. 58.
 E. Reich, *Schopenhauer als Phil. der Tragödie*, Wien, C. Konegen, pp. 139.
 R. Schellwien, *Optische Hütresien, erste Folge, &c.*, Halle-Saale, C. E. M. Pfeffer (R. Stricker), pp. vii., 108.
 E. H. Schmitt, *Das Geheimniss der Hegelschen Dialektik*, ditto, pp. xiv., 144.
 F. Lukas, *Die Methode der Eintheilung bei Platon*, ditto, pp. xvi., 308.
 G. Küssner, *Kritik des Pessimismus*, ditto, pp. 53.
 H. Siebeck, *Untersuchungen zur Philosophie der Griechen*, 2te Aufl., Freiburg i. B., J. C. B. Mohr (P. Siebeck), pp. viii., 279.
 P. Natorp, *Einleitung in die Psychologie*, ditto, pp. 129.
 A. Krause, *Das nachgelassene Werk Immanuel Kant's*, Frankfurt a. M. u. Lahr, M. Schauenburg, pp. xvii. 213.

NOTICE will follow.

VIII.—NOTES.

THE PAPAL CONDEMNATION OF ROSMINI.

As was announced at the end of the last No. of MIND, forty propositions of Antonio Rosmini-Serbati's have quite recently been condemned at Rome. According to the Decree, dated the 14th December, 1887,¹ most of the propositions are taken from posthumous works of the author. Some of them may therefore be considered as the expression of ideas not sufficiently matured. Nothing is more unjust (as J. de Maistre says somewhere, *à propos* of similar publications of Bossuet's) than to judge of a man's opinions by what has been published after his death. It is well that the fact was mentioned in the Decree; though, of course, the Congregation whose task it was to review and examine the works had nothing to do with the fact of their being posthumous; nor, indeed, with anything at all except the doctrines contained therein.

Of the forty propositions, only twenty-three have any philosophical interest. The first six relate to Rosmini's innate idea of Being and its relation to the Divine Substance. From Nos. viii. to xiii. we find propositions chiefly relative to the distinction of beings. Nos. xiv. to xvii. refer to creation; No. xviii. apparently denies freedom of will in God; No. xix. seems to confound the Divine Word with a sort of 'materia invisita'; and the rest of the propositions up to No. xxiv. relate to psychological questions.

Mr. Davidson, in his valuable work, *Rosmini's Philosophical System*, repeatedly states that the utmost care had been taken that the system should not lead to Pantheism. Rosmini "admits, indeed, that his *ideal Being* is an appurtenance (*appartenanza*) of the Absolute Being (*Theosophy*, i., §§ 455, &c., &c.), and that if this being were to put forth its own activity, and so complete and terminate itself, we should see God; but he adds, 'until this happen . . . we can only say . . . that in this life, certa, quamvis adhuc tenuissima forma cognitionis, attingimus Deum'. The self-manifest being, communicated to man, is not God" (*Rosmini's Phil. Syst.*, p. 206). Notwithstanding these assurances, if we take the following six propositions as they stand in the Decree, we can easily imagine that the Roman Congregation was afraid. It may well have thought that, in the language of the Jesuit F. Liberatore (*Inst. Phil.*, ii., p. 367),² "this system gives a handle to Pantheism," *ansam præbet Pantheismo*: and that was enough to condemn it. A Catholic system of philosophy must be beyond suspicion.

"i. In ordine rerum creatarum immediate manifestatur humano intellectui aliquid divini in se ipso, hujusmodi nempe quod ad divinam naturam pertineat."

How, we may ask, is this "aliquid divini" to be understood?—as a figure, or in its proper signification?

"ii. Cum divinum dicimus in natura, vocabulum istud 'divinum' non usurpamus ad significandum effectum non divinum causæ divinæ;

¹ Published at length in *The Tablet* newspaper, March 24th.

² What F. Liberatore says on the subject is well worth reading. The principal objections to Rosminianism are urged with a good deal of moderation, seldom to be met with when he encounters other adversaries.

neque mens est nobis loqui de divino quodam, quod tale sit per participationem."

So there is, according to Rosmini, something really divine in nature, "in ordine rerum creatarum," immediately manifested to man. Not manifested as *divine*, for then we should see God, and Rosmini, as we have said, energetically denies that. Still it is "aliquid divini," and it is "divinum natura," and this signifies neither 'springing from a Divine Cause,' nor even 'partaking of the Divine nature'. What does it then signify?

"iii. In natura igitur universi (id est, intelligentiis quæ in ipsa sunt) aliquid est cui convenit denominatio divini, non sensu figurato, sed proprio. Est actualitas non distincta a reliquo actualitatis divinæ."

This actuality is in the minds of men, part of their thoughts; since it appears to them as the idea of indeterminate Being, which makes up the whole tissue of mental activity. For—

"iv. Esse indeterminatum, quod procul dubio notum est omnibus intelligentiis, est divinum illud quod homini in natura manifestatur.

"v. Esse quod homo intuetur, necesse est ut sit aliquid entis necessarii et æterni, causæ creatis, determinantis ac finientis omnium entium contingentium: atque hoc est Deus."

The abstract indeterminate idea of Being is something of God; on the other hand, this same idea is part of the mind of man. Rosmini says that this is not God. But it is an appurtenance of the Divine Nature, and divine in its nature itself. And we can only say it is not God, because we do not *know* it as such: for in God there are no parts, and (at least *objectively* speaking) if something divine be identical with any human idea, then God is also identical with it. Further, it is said that this *aliquid divini* is the same essence in God and in the creature that possesses the idea:

"vi. In esse quod præscindit a creaturis et a Deo (quod est esse indeterminatum) atque in Deo (esse non indeterminato, sed absoluto) eadem est essentia."

It is impossible to convict Rosmini of Pantheism, after what he has written against that doctrine; but when, in spite of his evident orthodoxy, his system brings him to use such expressions as these, no wonder that people should suspect the system.

Next come (leaving out proposition vii., which is theological) the theses which treat of the distinction of beings, beginning with—

"viii. Entia finita quibus componitur mundus resultant ex duobus elementis, id est ex termino reali finito et eo esse initiali quod eidem termino tribuit formam entis."

According to F. Liberatore, Rosmini "alia de idea entis prædicat, quibus videri possit idea illa constitui tanquam aliquid Deo et mundo superius, quod deinceps in utrumque convertatur". And though the *univocæ* of Rosmini is explained by Mr. Davidson very satisfactorily in a foot-note (*Ros. Phil. Syst.*, p. 344), it comes quite natural for us to take the "initial being" as the supreme genus, under which God and the creature come as two distinct species, contrary to what St. Thomas says in his *Summa contrâ Gentiles*, i. 24, "Quod Deus non sit in aliquo genere".

"ix. Esse, objectum intuitionis, est actus initialis omnium entium. Esse initiale est initium tam cognoscibilem quam subsistentium; est pariter initium Dei, prout a nobis concipitur, et creaturarum.

"x. Esse virtuale et sine limitibus est prima ac simplicissima omnium entitatum, adeo ut quælibet alia entitas sit composita, et inter ipsius componentia semper et necessario sit esse virtuale. Est pars essentialis omnium omnino entitatum, utut cogitatione dividantur."

What is here meant by "Esse virtuale et sine limitibus"? The Infinite, or the Indeterminate Being? Both are "sine limitibus". If the first is meant, we find that all finite beings have the Infinite as a component part; which would be very heterodox. If the second, then God is composite ("adeo ut *qualibet alia entitas sit composita*"), which is hardly superior in orthodoxy to the first meaning.

Space fails for proper developments, but I cannot leave out the following propositions on the same subject:—

"xii. Finita realitas non est, sed Deus facit eam esse, addendo infinitæ realitatæ limitationem. Esse initiale fit essentia omnis entis realis. Esse quod actual naturas finitas, ipsis conjunctum, est recisum a Deo."

To limit infinitude is self-contradictory. If the "esse initiale" is divine, and is *my* essence, then my essence ought also to be divine. How are we to understand this "recisum a Deo," if God is a being absolutely without parts? You cannot cut anything off from a mathematical point.

According to Rosmini, creation consists of three operations: the first is abstraction, and the second imagination; the third is the synthesis or union of the "esse initiale" (produced by abstraction) with the "esse reale finitum" (produced by imagination).

"xiv. Divina abstractione producitur esse initiale, primum finitorum entium elementum; divina vero imaginatione producitur reale finitum, seu realitates omnes quibus mundus constat.

"xv. Tertia operatio Esse Absoluti mundum creantis est divina synthesis, id est, unio duorum elementorum: quæ sunt *esse initiale* commune omnium finitorum entium initium, atque *reale finitum*, seu potius diversa realia finita, termini diversi ejusdem esse initialis. Qua unione creantur entia finita."

The next two propositions are of less importance; we may pass to—

"xviii. Amor quo Deus se diligit etiam in creaturis, et qui est ratio qua se determinat ad creandum, moralem necessitatem constituit, quæ in ente perfectissimo semper inducit effectum: hujusmodi enim necessitas tantummodo in pluribus entibus imperfectis integram relinquit libertatem bilateralem."

Here it is pretty plainly stated that God was morally obliged to create; and that this moral obligation did not leave Him practically free. Compare what Rosmini, quoted by Mr. Davidson, says (*Ros. Phil. Syst.*, p. 320):—"Being infinitely loves being. This love leads it to love being in all the modes in which it is lovable, in which it can be loved. . . . This love is the creative act. It therefore creates for itself, through the expansion of life, a lovable finite object, and this is the world. In order to create this world, it must first conceive it, both because this creative principle is intelligence, and because that cannot be loved which is not known; second, it must realise it, because, if it were not real in itself, the object of love would not exist, but would merely be possible, and what is loved, seen in its possibility, is desired to exist. Hence the two elements . . ." (*Theosophy*, i. § 460). This passage seems to point to the same conclusion as the Latin proposition; less explicitly, however. But any assertion against the freedom of God towards His creatures was naturally regarded, to use the words of the Decree, as one of those propositions that "*veritati Catholicæ haud consonæ videbantur*".

It is hardly necessary to mention proposition xix., which says, "*Verbum* (that is, the Divine Word) *est materia illa invisæ ex qua, ut dicitur Sap., xi. 18, creatæ fuerunt res omnes universæ*". The expression appears to illustrate the system very thoroughly; but the Church was not to be expected to let it pass. Rosmini was roughly handled by the Jesuits; but many Protestant divines would handle roughly anyone

who said that the world was made of God. And the persecutions under which Rosmini succumbed, "not without suspicion of poison"¹ (as Mr. Davidson informs us) were hardly so undeserved as might at first sight appear.

Proposition xx. says it is not absurd for the human soul to be multiplied by generation: "non repugnat ut anima humana generatione multiplicetur"; whereas the Catholic Church of Rome asserts the contrary (S. Thom., *Summa cont. Gent.*, ii. 86, "Quod anima humana non traducatur cum semine"), because the immaterial soul cannot have been produced by mere matter. Rosmini admits the force of the argument, but thinks that the act of generation might give rise to a merely sensitive soul that afterwards, by development, is united to the "esse initiale," perceives it, and becomes immaterial: as he says in proposition xxi., "When Being can be intuited by the sensitive principle, this sole touch, this *union of itself*, raises the said principle (that before could only feel) up to a more exalted state, changes its nature and renders it intelligent, subsistent and immortal."

Proposition xxii. comes to pretty nearly the same as admitting two souls, one sensitive and the other intellectual, in the human body. "God might possibly separate the intellectual principle from the animated body, without the latter ceasing to be animate (animale):" but if "animale," there must remain some sort of "anima" or other. Was it there before, or no? If not, where does it come from now? If so, then there were two souls in man, existing together.

We find in proposition xxiii. a quasi-negation of the soul's immortality for all who do not belong to the supernatural order, or who are "in statu naturali"; their soul would be plunged in a deep sleep, and be eternally as if it did not exist. To minimise the consequences of this assertion, however, let us remember that, according to theologians, no man is, and no man probably ever was, "in statu naturali"; for Adam was created "in statu supernaturali," whence his fall could not degrade either him or his descendants. And proposition xxiv. affirms that the soul is not the substantial form of the body, but rather the cause of that substantial form—which is manifestly contrary to the teachings of the Church of Rome: "Forma substantialis corporis est potius effectus animæ, atque interior terminus operationis ipsius: propterea forma substantialis corporis non est ipsa anima. Unio animæ et corporis proprie consistit in immanenti perceptione, qua subjectum intuens ideam affirmat sensibile, postquam in hac ejus essentiam intuitum fuerit."

Such are the *philosophical* propositions condemned by the Congregation of Inquisitors-General—a sentence approved by the Pope, who has certainly followed the inquiry with the interest he takes in all philosophical matters. Leo XIII. is as ardent a disciple of St. Thomas as Rosmini was (or thought he was), and in now condemning Rosmini is

¹ One very naturally inquires *on whom* this suspicion fell. Not upon Rosmini of course, nor on his partisans and friends. Then?—Mr. Davidson is a staunch and loyal friend, but an adversary is not likely to get much justice at his hands. He admits in the work I have quoted that he has not read most of the controversial writings on the other side, "because they were published with calumnious intent". How could he possibly know that without having read them? Only by an act of faith in some third person's assertions; but this is not just, and does not give him the right to speak as he does. *Qui n'entend qu'une cloche n'entend qu'un son.*

not in the least influenced by the Jesuits, as was Pius IX. who refused to condemn him.

As before mentioned, these propositions are selected for the most part from Rosmini's posthumous works—works that he might, had he lived, have published in another form, and with salutary restrictions and safeguards. It may be that they have been chosen as they stand, without any regard to the context, and with a fixed determination of profiting by every unguarded expression that fell from his pen; but this supposition is not probable. Because a man is a Catholic, a priest, and even an Inquisitor-General, it does not follow that he is led by no principles of justice in judging his fellow-man; especially if this fellow-man is known to have lived like a saint, austere for himself, charitable to others, and zealous for the good of his Church.

The general note given to the collection of propositions is that they seemed (*videbantur*) not conformable to the teachings of the Church; nothing more. In ordinary cases, each proposition receives an appropriate mark or condemnatory note: 'unsafe'—'rash'—'dangerous'—'heretical'—'blasphemous'. Here, nothing of the kind. Was it because the examiners did not wish them to be considered as definitely condemned? We can scarcely suppose that. Was it not rather that, out of respect for the memory of so good a man, they did not like to give some of his propositions the mark which they deserved? Else, one does not see how propositions xviii. to xxiv. could in that case escape being noted as heretical.¹ We must suppose it was the intention of the Inquisitors to refrain from inflicting such a stigma. No one could help feeling sympathy for so deep a thinker as Rosmini, even when dissenting from his system. The question of the origin of ideas—or theory of cognition—is perhaps the most difficult in all philosophy; while, from its importance, it demands a solution more than any other. The Scholastic solution, according to my own opinion, is correct so far as it goes; but it has the defect of being merely a statement of the question in philosophical terms, leaving us no farther advanced after than before. This question Rosmini attempted to answer in an independent way; and in this attempt his principal merit consists.

It is not necessary to dwell upon the feelings of Catholics in this conjuncture. Outsiders will generally feel indignant. That indignation ought, however, to have its limits. If the Church had asked Rosmini for a system of philosophy, and then sent it back as 'unsuitable' like the returned MS. of some unfortunate author, Rosmini might be pitied, but the Church could hardly be condemned. If it found that his theories were "*Catholicæ veritati haud consonæ*," it had not only the right but the duty to refuse them. Your tailor cannot force you to take a coat which does not fit, even though you have ordered it. But here there was no order given. No one had asked Rosmini to build up a system. He did it at his own risk, knowing that if he went seriously astray his doctrines might be '*reprobatæ, damnatæ, atque prohibitæ*,' which simply means that the Church of Rome will have nothing to do with them. And whether in Rosmini's particular case there is much need for indignation may well be doubted. He had accusers: of course he had; otherwise his works would not have been examined. These accusers were unjust to him; lawyers on the opposite side usually are so. But he had defenders too, if I am not much mistaken, and judges who for many long years examined his doctrines with care.

FRANCIS WINTERTON.

¹ Cp. S. Thom., *Summa Th.*, 1^a 1^æ. Quæstio lxxvi. "De unione animæ ad corpus".

ON BODY AND MIND.

Anything approaching a complete answer to Mr. Stout's questions in the No. of MIND for last July would involve a lengthy discussion; indeed, his questions seem to me in large measure unanswerable on any theory of the relations of body and mind. I can, therefore, only indicate what line of reply I should wish to have pursued in considering them, so far as they seem to offer objections to the particular theory set forth in my *Elements of Physiological Psychology*. In doing this I will adopt the numbers and order in which the objections of Mr. Stout were made.

1. Mr. Stout thinks that, in refuting materialism, I have implicitly refuted my own views. This is because, although I assert that the entire "doing" of material atoms consists in changing their relations in space to other material atoms, and deny that mental phenomena can be spoken of as the "product" of neural phenomena, I still maintain that we have ground for believing in the reality of the interaction of body and mind. That all physical phenomena, including those called neural, can be interpreted and indeed, as such, conceived of only in terms of motion, is an assertion, I suppose, which would command the assent of the entire system of modern physics—or, rather, if you please, the metaphysics of physics. But when I argue against the theory which considers mental phenomena as the "product" of neural phenomena (as I do at length in the third part of my book), I am emphasising my dissent from any of the several current uses of that word "product," as a term fit to summarise the relations which exist between body and mind. If Mr. Stout, or anyone else, wishes to defend the employment of this term, he must accomplish this by interpreting the term in some consistent and intelligible fashion. In other words, we cannot say that mental phenomena are a "product" of neural phenomena, unless we can show that this word is a fit one, in some special and definite meaning, to sum up the relations empirically shown to exist between the two. But if the word "product" be used as signifying that body and mind are interacting, that they fall under the great law under which reason brings all uniformity of observed sequences, then, of course, I too am an advocate of the view embodied in the word. Only I still consider the word, as currently used by all materialism, not only misleading but also utterly impossible to make intelligible. We may, for example, fitly call the physical resultant of a chemical combination of oxygen and hydrogen atoms, under given circumstances of temperature, pressure, &c., a *product* of those atoms; it is quite another matter, however, to use the given term for the relations between a state of consciousness, with its reference or referableness to an Ego, and the combination of those or other atoms.

But Mr. Stout throws his objection to my view into the form of the following question: "If the material atom as such does nothing but change its spatial relations, how can it act on something which is not in space at all?" (There may be lurking in the words "do" and "act" as here employed, an ambiguity; and to this point I shall refer again in a moment.) Now, if Mr. Stout means by the word "how" to ask me for a description of the *modus operandi* of the action of the atom, which is in space, upon the mind, which, according to the question, "is not in space at all," I cannot furnish an answer. Indeed, I hold that the question itself is idle and unanswerable. But the terms of his inquiry seem to be framed so as to suggest, or even to force, a negative answer. The answer required by the question seems to be: Such action *cannot* take place at all; it is inconceivable. But this conclusion is nothing but the declaration of the old Cartesian and post-Cartesian metaphysics. The truth is, of course, that all action and interaction are, ultimately con-

sidered, inexplicable mysteries—are just somewhat that has to be posited and left unexplained and resting on metaphysical necessities. We cannot for ever go on putting-in more mechanism to lighten up the mystery. At last we must rest in the confession, that the observed world, the world of phenomena, is underlain by a world of real beings, which act and are acted on by each other:—"how?" we know by discovering the uniform modes of their related action; but "how?" we know not, and never can know, if by asking we mean to inquire into the *modus* of interaction in general.

Now my theory amounts to the claim, that we need a real being called the "mind," in order theoretically or speculatively (if you will, metaphysically) to account for the sum-total of those phenomena called mental. That this mind is interactive with a certain system of material beings—the so-called atoms of the brain—is no more difficult to admit, on proper scientific evidence, than the interaction of the different elements of the material system. Both admissions are alike necessitated by facts; both quickly land us in the ultimate mystery of all interaction.

2. In answer to Mr. Stout's second objection, a brief mention of it, with a single hint, must suffice. I am judged inconsistent because I deny that there can be any "interchange of energy between brain and mind," and yet maintain interaction between the two resulting in a given direction of the bodily organs. Now I do not know precisely what Mr. Stout means by the term "interchange of energy". Properly speaking, there is no such thing as *interchange* (or *transitus*) of energy anywhere. What I do deny—and in this I suppose that the great majority of all materialists even would unhesitatingly agree with me—is, that the law of the conservation and correlation of physical energy can be maintained between states of consciousness and states of brain. To admit its existence here would disprove its accuracy in the sphere of body alone—just where it must be maintained, if we are to bring even the neural phenomena under it at all.

Mr. Stout seems to think that, by the foregoing denial, I render myself liable to suggest some "mode of interaction, which is not in like manner absurd". The particular mode which he thinks I am bound to advocate is, that the mind acts like "a condition of mechanical constraint". Now, here again I decline to be compelled either to abandon the view that mind and body interact at all or else to describe their "mode" of interaction. In some sense, my entire book is a description of the mode, or rather modes, of the interaction of body and mind. These modes are nothing but the uniform ways in which the two behave under their different relations to each other. More simply said, the uniform related ways of acting are their modes of interaction. Further than this, to ask after a "mode" is to raise the same old unanswerable inquiry. I can easily agree, then, with Mr. Stout when he says: "It is as difficult to conceive the soul acting as a condition of mechanical constraint as it is to conceive it receiving energy from the material system and returning it again". Both are so difficult of conception that both are quite inconceivable; and there is not the slightest real warrant for either.

3. Mr. Stout's last objection to the views of my book is by far, to me, the most surprising. He finds "serious ground for complaint" against me because I have nowhere taken account of the Kantian criticism. If this be true, I certainly cannot plead that I have sinned in ignorance: for several years it has been no small part of my annual task to study and teach the *Critique of Pure Reason*.

The particular matter in which I have not sufficiently deferred—so Mr. Stout thinks—to the *K. d. r. V.*, is in arguing "from the unity of

consciousness to the existence of a real unitary being as the subject of consciousness". This argument Kant is deemed to have sufficiently exploded. What argument Kant did really explode, so far as he aimed to explode any argument and accomplish his aim, is a matter to be discussed on other than the present grounds. But that I have repeated the inferences of the old rational psychology, which attempted to demonstrate the natural immortality of the soul by showing that it must be some kind of incomposite (and therefore indecomposable) monad or atom, I utterly disclaim.

The two places in my book where I have dealt at any length with, or even prominently assumed, the unity in reality of the mind, are the chapters on perception (Part ii.) and the chapter on the mind as a real being (Part iii.). In the chapters on perception, the metaphysical basis of the theory which I advocate (so far as this theory has any such basis), is substantially identical with a certain Kantian view advocated in the 'Deduction of the Categories'. This I feel called on to confess in deference to those of my critics who, unlike Mr. Stout, find that I take too much account of the Kantian criticism. That is to say, I hold that, back of all appearances, in consciousness, of one, or two, or of any other number of phenomenal things, stands the postulate of the unifying *actus* — the one-making power — of mind.

The definite treatment which I give in my book to the unity in reality of mind is very brief. As I understand it, this treatment differs almost *toto caelo* from that argument of the old-fashioned rational psychology which Kant undertook to overthrow (to overthrow, at any rate, as a demonstration making and needing no appeal to faith). I say, indeed (p. 683): "It must be admitted that the question of the unity of mind has given rise to much fruitless and by no means pertinent debate". A unity in the substratum of mind, conceived of after the analogy of an incomposite material atom, even if such a conception were mentally possible, would throw no light on the unity of consciousness. To be self-conscious, to appear to oneself at all as having states or as subject of states, this *is* to be really one (a unitary real being), in the highest meaning which can be given to the words.

At the risk of seeming to speak lightly of a grave psychological and philosophical question, let me affirm: A wise man does not care whether he be reckoned as one or as more than one, according to the reckoning employed by the student of physics in counting up his atoms, or of the housewife in counting up her things. Thus to be a unitary real being (if it were possible) would be no boon, if one could not appear to one's self as one in consciousness. And thus to be two or more real beings would be little hardship, if one were still the subject of a rational self-consciousness.

Is it not I, my mind, that makes the one and the two, of the atoms and of the things? How have they number except as they get numbered, or set over against the mind?

In conclusion, let me say that Mr. Stout's courteous and searching questions convince me more than ever that metaphysics will creep into the study of mind (and ought to be cautiously and intelligently admitted as necessary to a theoretic treatment of the phenomena) from whatever point of view it be pursued.

GEORGE TRUMBULL LADD.

EDMUND GURNEY.

At the end of last No. it was possible only to mention the death, so sudden and unexpected, of Edmund Gurney. For his years (41) he had given the world no ordinary means of gauging his powers, yet only his more intimate friends seem thus far to be aware that in him has been quenched one of the most richly endowed and strenuous spirits of this generation. He came of remarkable stocks on both sides: his mother a Northumbrian Grey; his father, the Rev. J. Hampden Gurney, son of Baron (of the Exchequer) Gurney, who was son and grandson of the two famous stenographers of that name in the last century. Before being settled in London as Rector of St. Mary's, Bryanston Square, his father resided for a time at Hersham, near Walton-on-Thames, in Surrey, and there Edmund was born on March 23, 1847, fifth in a family of nine children. After a somewhat irregular education as a boy, he entered Trinity College, Cambridge, as a minor scholar, and emerging as fourth classic in 1871 won a fellowship next year. It was no special predilection that turned him to classics rather than mathematics. His passion from boyhood was for music, and he had no sooner shown that he could do as well as others on one of the academic lines than he yielded to his natural bent, and for some years worked hard to attain, if he still might, an artist's command over the piano. But by this time there had awoken in him a deep reflectiveness upon human life, with a consuming desire to be of use to his kind; and if he toiled at music it was not so much for his own delight as with a hope of rendering himself able to help in brightening the lot of the common people. When it gradually became clear to his fastidious sense that the artist's power was not to be his, the inquisitive impulse, not less strong within him, found its opportunity. From 1876 he began to write in the *Reviews* on various aspects of the musical art, and finally his studies took systematic form in his great treatise *The Power of Sound* (1880), a book on the theory and general import of music that has no rival for penetrative force and sanity of view, with interest brilliantly sustained from first to last. Meanwhile he had been subjecting himself to discipline of another kind, partly in order to acquire the familiarity with physical science necessary for his musical inquiries, partly with a renewed hope of social service. He became from the end of 1876 a medical student, in London first, then longer at Cambridge, and again in London (from 1880) on reaching the more practical stage of the course. The discipline proved fruitful to him in many ways, both at the time and afterwards, but did not open for him at the end the field of activity in which he felt he could work to purpose. Neither did the study of law, to which his subtle intellect was drawn from 1881, and which for a time he prosecuted with characteristic ardour, avail to hold him fast; though it gave him an insight into the principles of evidence which he was soon to turn to account. It was the deeper questions of philosophy, and specially such as bear upon the conduct of life, that all the while were exercising him most; for about this time appeared, in *MIND* or elsewhere, the more remarkable of the essays—all of singular power—which he reproduced at the end of last year under the title *Tertium Quid: Chapters on various Disputed Questions* (see *MIND* No. 49, p. 152). At last, in 1882, the path disclosed itself upon which, as it seemed to him after all his varied experience, he might labour with real effect. For years before he had been associated with a number of friends in a course of private inquiry into the pretensions of so-called spiritualism. Without community of aim or prospect in the business, they acquired a common conviction that there was a large region of

abnormal human experience which, often taken into view and again dropt out of view in the past, called in these days for a systematic and continuous examination with the help of every available scientific appliance. The Society for Psychical Research was formed in 1882; and Gurney who, besides the necessary scientific and philosophic preparation, had the no less necessary leisure and also a mind sufficiently detached from the particular religious interests thought by some to be involved in the inquiry, threw his whole soul into the work, living thenceforth for hardly anything else. The results of his amazing energy of pursuit have gone on appearing in number after number of the Society's *Proceedings*, in the two large volumes of *Phantasms of the Living* (1886), and sometimes in *MIND*. Here he had ever the warmest welcome for his work in hypnotism, which equals the best that has been done in any country since that perplexing subject came finally under scientific treatment; nor is this the only contribution he has made in these last years to psychological science. But, over the grave into which a too passionate vehemence of quest has hurried him, what shall be said of that 'Telepathy' to which he and his associates have committed themselves as decisive outcome thus far of the conjoined labour in which his part has been the greatest? This may be said. If the world is in the end won to a conclusion so revolutionary of all common experience, not even Gurney's life will have been too heavy a price to pay towards its attainment. In the other event—if, that is to say, men after all find that they must remain in the future satisfied for all purposes with the kind of experience that has brought the race so far—then truly can his fate never cease to be deplored. There was so much else to be thought and said in these days which no man seemed to be in the same way marked out for subtly thinking and forcibly saying as he!

EDITOR.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY (22 Albemarle Street, W.).—The business meeting for the Ninth Session of the Society was held on June 11th. The Officers of the Society were re-elected, with the addition of Mr. Bernard Bosanquet, who was elected a Vice-President. Professor Wyndham R. Dunstan, V.P., was elected Editor of *The Proceedings* of the Society. The form of discussion known as 'Symposium' having met with approbation, three evenings instead of two will be devoted in the ensuing Session to discussions in that form. *The Proceedings* for the Ninth Session, including Report, List of Members, &c., are published by Messrs. Williams & Norgate, and are now ready. The first meeting of the ensuing (tenth) Session is fixed for Monday, November 5th, at 8 p.m., when an Address will be delivered by Mr. Shadworth H. Hodgson, President; subject: "Common-sense Philosophies". Program-cards for the Session may be obtained by applying to Mr. H. Wildon Carr, Hon. Secretary.

We note with regret the death of Professor G. Teichmüller at Dorpat in May last. Dr. H. Bonitz, the great Aristotelian scholar, has also recently died.

REVUE PHILOSOPHIQUE.—An. xiii., No. 7. H. Spencer—La morale de Kant. G. Tarde—La dialectique sociale (i.). A. Calinon—Les notions premières en mathématiques. G. Lechalas—Sur l'agrandissement des astres à l'horizon. Variétés (A. Gazier—Fragments de lettres inédites relatives à la philosophie de Kant, 1794-1810). Analyses et Comptes-rendus (D. G. Thompson, *The Problem of Evil*; F. M. Müller, *Biographies of Words*, &c.). Rev. des Périod. Nécrologie (G. Teichmüller). No. 8. F. Paulhan—La finalité comme propriété des éléments psychiques. P.

Regnaud—Remarques sur l'évolution logique des différentes catégories du nom. G. Tarde—La dialectique sociale (fin). Analyses, &c. (K. Pearson, *The Ethic of Freethought*, &c.). Rev. des Périod., &c. No. 9. A. Binet—La responsabilité morale. C. Secrétan—Questions sociales: ii. Le luxe. P. Malapert—L'amour intellectuel d'après Spinoza. Analyses, &c. Notices bibliog. Soc. de Psych. physiol. (Dr. Dufay—Contribution à l'étude du somnambulisme provoqué à distance et à l'insu du sujet).

LA CRITIQUE PHILOSOPHIQUE (Nouv. Sér.).—An. iv., No. 5. V. Egger—Le sommeil et la certitude; le sommeil et la mémoire; examen des théories de M. Delboeuf. J. Chancel—De la certitude judiciaire (fin). L. Dauriac—Névropathes et aliénés. . . . No. 6. W. James—Ce que fait la volonté. . . . C. Renouvier—La nouvelle école du droit pénal en Italie. &c. No. 7. F. Lequier—Dialogues sur le libre arbitre (suite). . . . C. Renouvier—E. Clay et Tolstoï: la morale néobouddhique, la charité absolue. . . . No. 8. F. Lequier—Dialogues, &c. . . . C. Renouvier—Quelques remarques sur la théorie de la volonté de M. W. James.

RIVISTA ITALIANA DI FILOSOFIA.—An. iii. 2, No. 1. V. Benini—Dell'analogia considerata dal punto di vista logico e nelle sue applicazioni. G. Pellissier—Due frammenti inediti dell'epistolario di Leibniz. F. Puglia—Di alcune inesattezze negli studi di sociologia. A. Martini—Un nuovo compendio di storia della filosofia (da C. Cantoni). A. Marconi—La filosofia nei licei italiani. Bibliografia, &c.

RIVISTA DI FILOSOFIA SCIENTIFICA.—Vol. vii., No. 3. F. Pietropaolo—Sulla filosofia di Galluppi. P. Galluppi—Lettere inedite. E. Tanzi e G. Musso—Le variazioni termiche del capo durante le emozioni. G. Cesca—Dimostrazione dell'esistenza della 'cosa in se'. Riv. Gen., &c. No. 4. G. Bunge—Vitalismo e meccanicismo. V. Valeriani—Il principio d'identità e l'apriorismo nella filosofia scientifica. F. Puglia—Le leggi di composizione e decomposizione delle aggregazioni sociali umane. Riv. Gen., &c.

ZEITSCHRIFT FÜR PHILOSOPHIE, &c.—Bd. xciii., Heft 2. H. Siebeck—Die Anfänge der neueren Psychologie in der Scholastik. C. Hartenstein—Ueber die Lehren der antiken Skepsis, besonders des Sextus Empiricus, in betreff der Causalität. C. Gross—Die Gleichheit der Subjekte. Rezensionen.

PHILOSOPHISCHE MONATSHEFTE.—Bd. xxiv., Heft 9, 10. Th. Lipps—Psychologie der Komik (ii.). J. P. Becker—E. Zeller's Angriff auf das Moralprincip Kant's. P. Natorp—Thema u. Disposition der aristotelischen Metaphysik (ii.). R. Eucken—Der Neuthomismus u. die neuere Wissenschaft. Rezensionen. Literaturbericht, &c.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. xii., Heft 3. G. Heymans—Zur Raumfrage (i.). J. v. Kries—Ueber den Begriff der objectiven Möglichkeit, &c. (ii.). A. Meinong—Ueber Begriff u. Eigenschaften der Empfindung (i.). C. Sigwart—Eine Rechtfertigung. Anzeigen.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE.—Bd. i., Heft 4. H. Diels—Zu Aristoteles' *Protreptikos* u. Cicero's *Hortensius*. O. Kern—Empedokles u. die Orphiker. P. Wendland—Philo's Schrift *Περὶ τοῦ πᾶντα σπουδαῖον εἶναι εὐθερον*. H. Siebeck—Zur Psychologie der Scholastik. L. Stein—Handschriftenfunde zur Philosophie der Renaissance. L. Stein—Neue Aufschlüsse ueber den litterarischen Nachlass u. die Herausgabe der *Opera posthuma* Spinoza's. C. I. Gerhardt—Zu Leibniz' Dynamik. A. Chiappelli—Zu Pythagoras u. Anaximenes. Jahresbericht (E. Zeller—Plato, 1886, 7 (ii.). P. Wendland—Kirchenväter, 1886, 7).

